TRON: FROM FILM TO GAME...AND BACK!

electronic GAMES

Videogames · Computer Games · Stand-Alone Games · Arcades

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NOVEMBER, 1982 · $2.95

A new world of Gadgets and Accessories GOODIES FOR GAMERS

Vectrex: King of the Stand-Alones

Fun is Just a Phonecall Away: DIAL-A-GAME

The Gamers Guide To Microcomputers
This is

COLECOVISION

The Arcade Quality Video Game System

The Most Advanced Video Game System You Can Buy
ColecoVision was designed for what you had in mind—a great game system that's expandable into a great computer system.

Arcade Quality Graphics
ColecoVision graphics have the superior resolution and brilliant color of real arcade games. And this new advanced level of quality holds true for every part of the system.

Plays The Best
ColecoVision has arcade quality controls—joystick, fire and jump buttons that make it easy to play. And ColecoVision offers a library of your favorite arcade games like Donkey Kong (which comes as a bonus with ColecoVision), Turbo, Zaxxon and Cosmic Avenger. Sports and educational games, too. Even ColecoVision's exclusive new Smurf game based on the #1 TV cartoon series.

Plays The Most
ColecoVision plays more games than any other system, because ColecoVision is an expandable system. By using ColecoVision's first expansion module you'll be able to play all of the Atari®VCS compatible cartridges.

An Expandable Computer
When you buy ColecoVision, you've already bought a sophisticated computer ready to accept expansion modules of all kinds. And in 1983, you'll be able to "activate" ColecoVision's amazing memory by simply plugging in a keyboard, a printer and other computer accessories. This expansion feature is your assurance that your ColecoVision will always keep pace with "state of the art" developments in electronics.

ColecoVision—a great game system that's expandable into a great computer system. The most advanced video game system you can buy.
Dad,

This is the system we've both been waiting for. ColecoVision has everything! It plays the best arcade games. It looks and plays just like the real arcade. And it plays the most arcade games. It's got a plug-in attachment that will allow us to play all of Atari's VCS games. 

Bill

P.S. And look at this, Dad. ColecoVision is also a computer! And that's important—because, you know, I don't want to just play games. Could we go to the store and take a look?
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SPECTRAVISION
BUSTS LOOSE!

With 5 of the hottest new video games ever.

Spectravision: It's the most exciting new name in video games. Our five new ones will challenge you to the utmost.

We dare you to shoot it out with Mugsy, Scarface, Shifty, Lefty and deadly Nitro Ed in GANGSTER ALLEY. We challenge you to stop a devastating core meltdown in CHINA SYNDROME™ We defy you to try and stop a virtual blitz of alien missiles at night in PLANET PATROL™ We invite you to protect Slinky the Spectravorm from Beeky and Spanky in TAPEWORM™ We contest you to stand up to the vicious Morpus in CROSS FORCE™

Spectravision's games are more challenging. But they're also more lifelike. The colorful, vibrant graphics will excite you. The dynamic pulsing sound effects will make you tingle. The multi-skill levels and day-night phases will keep you coming back for more.

Try Spectravision video games soon. You'll see that we busted loose in a very big way.
Happy Birthday to Us!

By ARNIE KATZ

Can it really be a whole year since Electronic Games burst upon an unsuspecting world? It can be. In fact, it is. The first issue hit the nation's newsstands in late October of 1981.

The hobby of electronic gaming sure has changed a lot in a short time. There were just three videogame systems (plus the mail order Channel F) on the market when this magazine began publication, but there are now eight of them in the stores—Atari VCS, Mattel Intellivision, N.A.P. Odyssey², Astrocade, Atari 5200, ColecoVision, Emerson Arcadia 2001, and GCE Vectrex. There are even rumors that more programmable videogame systems are in the works, which will further widen the array of choices available to the millions upon millions of people who've discovered this exciting new way to have fun with their television sets.

Do you remember when the release of each new game cartridge was an eagerly anticipated event? That event took place more than 200 times during 1982! Home arcaders will buy a total of more than 60 million cartridges this year, double the number purchased in 1981.

The coin-op scene has also expanded greatly. Arcades have opened in thousands of malls and other locations, individual machines are found everywhere from movie theater lobbies to laudromats.

Things are happening in the world of computers, too. Price reductions have made the Commodore VIC-20 and Atari 400 big sellers, and even less expensive machines like the Timex TS1000 are now reaching the public.

The stand-alones have also improved magnificently. It's certainly a long, long way from the type of primitive and hand-held device that clogged retail shelves in 1980 to such sleek and sophisticated current stand-alones as Galaxian (Coleco) and Scramble (Tomytronics). And of course, there's even a full-fledged free-standing programmable videogame system, the Vectrex.

Electronic Games hasn't exactly stood still amidst all this commotion. We're printing three times as many copies of this issue as we did the first one, and more than one million electronic gamers now read EG every month. The cover price has remained the same, but the number of pages has risen from 84 to 124 to give us room to cover the always exciting gaming world.

Electronic Games has also tried to add features and departments that reflect the changes in the hobby. For instance, EG now has "Passport to Adventure" for quest-game fans and "Pinball Palace" for those who flip over the coin-op flipper games.

One thing I can promise you is that Electronic Games will not stand still in the future any more than it has in the past. This very issue represents something of a milestone in this regard. It's the first one that is running in glorious full color from cover to cover. That's right, except for some ads, everything you see in EG will look exactly the way nature intended. Color adds plenty of excitement to the games, and we feel it's just as necessary for a magazine that covers such games.

We're also fine tuning some of our regular features to make them even better. You'll see some differences in "Insert Coin Here" and "Computer Gaming" (formerly "Computer Playland"), this month. Down the road a piece, we'll be starting new columns for both computer sports simulations and war-games.

And when the next exciting new development rocks the gaming world, you can bet that Electronic Games will be right on the spot to report on it and analyze its meaning to the world's fastest-growing hobby. We hope you'll be joining us for many more birthdays, because the best is yet to come.
CommaVid presents
PLAYABLE VIDEO GAMES for your Atari Video Computer System

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

THE REVIEWERS REPORT:
"One of the more interesting new cartridge manufacturing companies is the Illinois-based CommaVid. They're releasing several cartridges for use in the VCS... and consisted of some of the best this writer has seen! ... Our initial impressions rate the company's offerings 'Impressive!'"

Video Entertainment, October '82

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

OTHER VIDEO GAMES FROM COMMAVID:

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

**MINES OF MINOS**
Aliens stalk the corridors. A single robot survives to battle them.

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

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

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ELECTRONIC GAMES HOTLINE

LARRY KAPLAN'S BRIDGE

FROM CARTS TO CONSOLES?
Larry Kaplan, one of Activision's original designers, has surprisingly left the company. Sources indicate that Larry, who had been creating games for the Atari VCS from the very start, had grown tired of the system’s limitations and wanted more excitement in his programming adventures. Since Larry hasn’t found that “special system” yet, he has decided to make his very own. As yet, we’ve nothing tangible to report on the prospective system, but if anyone can do it, Larry Kaplan’s the man!

ARCADE TAX REJECTED IN L.A.!
Let’s hear it for the Los Angeles City Council, which proved itself to be one legislative body that can’t be scared by any group of self-righteous anti-arcaders. The council defeated a proposal that would have taxed arcade operators a whopping $250 for each machine in their establishments. Reason for the ruling: Such a tax would unfairly penalize the videogame industry, and nobody wants to see the guys and gals who run the arcades getting zapped unnecessarily.

ATARI REPORT
★ Atari’s VCS version of Raiders of the Lost Ark is due to be released shortly, replacing Foxbat on this year’s schedule. The game, based of course, on the hit film, will be a multi-screen adventure using plot elements from the “Raiders” script. The arcader assumes the role of Indiana Jones and must explore 13 different scenarios in search of the Ark, each presenting a separate challenge. There’ll be hissing snakes, evil villains and Indiana’s trusty bullwhip!
★ Other interesting new VCS titles from Atari include their four-part Swordquest series,
NEW NAME FOR FISHY GAME

A new cartridge from Games by Apollo, originally entitled *Lochjaw* has been renamed *Shark Attack* as a result of an agreement between the company and Universal City Studios. Universal had felt that *Lochjaw* would get confused with those beachy thriller flicks, *Jaws* and *Jaws II*.

Apollo President Pat Roper wasn’t exactly ecstatic over the decision to rename the game. “I didn’t much care for it, because I didn’t feel it had to happen. We aren’t infringing, but we are too busy to get involved in litigation against Universal. At this stage, it’s just easier to change the name,” he explains.

*Shark Attack* involves a diver menaced by sharks while he attempts to gather sunken treasure from a shipwreck.

ROSS WINS TRON TOURNEY

Richard Ross of Jacksonville, FL, stands as the current top Tron Player as a result of a nationwide Tron contest sponsored jointly by Bally Manufacturing Co., Disney Studios and Bally's Aladdin's Castle division. Ross' top score of 3,958,501 easily bested runner-up Scott Katkin of East Greenwich, R.I., who tallied 2,721,770. Sterling Ouchi, a well-known name to those who regularly follow EG's National Vanity Board, finished third with a total score of 1,158,085.

Finals for the tournament were held over in Madison Square Garden's Felt Forum. It was the culmination of over one million rounds of play.

First prize was a years' free game tokens, a Commodore computer and a Midway Tron coin-op machine.

BERZERK

Berzerk, and a version of their computer classic, *Star Raiders*, which will come packed with a new type of controller (keypad/disc) and lists at $39.95. The additional controller will give the player direct input control over shields, warp drive, and other play elements that should add considerable depth.

★ The list price on the Atari 5200, the deluxe game system formerly identified as the Supergame, has dropped a bit since it was first announced. Latest reports indicate the system may be selling for as little as $219 this Christmas.
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!

**Battlezone** (Atari)
Mike Johnston
Los Alamitos, CA
Record: 5,899,000

**Missile Command** (Atari)
Joe Fernandes
Artesia, CA
Record: 52,246,260

**Centipede** (Atari)
David Jagoda
Utica, MI
Record: 3,117,115

**Star Castle** (Cinematronics)
Bob Mines, Jim Prucey
Cortland, OH
Record: 9,833,940

**Crazy Climber** (Taito)
Tim McGuigan
Lincoln Park, MI
Record: 404,050

**Defender** (Williams)
Scott Dixon
Richmond, VA
Record: 48,995,300

**Dig Dug** (Atari)
Paul Choi
East Lansing, MI
Record: 1,438,190

**Donkey Kong** (Nintendo)
Eric Henckel
Houston, TX
Record: 381,300

**Phoenix** (Centuri)
Chris Lewis
Grand Falls, Canada
Record:

**Vanguard** (Centuri)
Paul Baggett
Mesquite, TX
Record: 259,250

**Wizard of Wor** (Midway)
James Hussiere
Poland Springs, ME
Record: 150,900

**Zaxxon** (Sega/Gremlin)
Allen Rager
Millington, TN
Record: 772,500

**Frenzy** (Stern)
Tracy Parish
Millington, TN
Record: 145,427

**Frogger** (Sega/Gremlin)
Roy Scott
Lake Charles, LA
Record: 117,730

**Galaga** (Midway)
Ken Leon
Virginia Beach, VA
Record: 3,335,600

**Omega Race** (Midway)
Donald J. Goldstein
Denver, CO
Record: 1,189,750

**Stargate** (Williams)
Ronald Bactad
Carmel, CA
Record: 10,235,000

**Pac-Man** (Midway)
Michael Hines
Hudson, NY
Record: 5,978,640

**Ms. Pac-Man** (Midway)
Armor Attack (Cinematronics)
John Hooper
Lakewood, CA
Record: 319,670

**Scramble** (Stern)
Tim Morrison
Millington, TN
Record: 944,310
World's Largest Selection of Commercial and Home Video Games and Accessories.

Supercharger® by ARCADIA®
for your Atari® Video Computer System™
Arcadia® has gone one giant step beyond great video
games, by making your Atari® set an even greater video
game machine. When you slip the Supercharger™ into
the game slot of your Atari® Video Computer System™, you
add advanced electronics and increase the
computer memory many times over, giving
sharper, more lifelike game characters. The
bigger memory can handle more complex
games. Your Atari® can now have two totally
different, but interrelated, screens for a single
game, creating more options, more challenge
levels, and more enduring fun.

Supercharger™
with Phaser Patrol™ Tape:
only $69.95 + 3.00* (does not include cassette recorder)

Additional Cassettes:
Communist Mutants
from Space™ ...................... $14.95 + 2.00*
Fireball™ ........................ $14.95 + 2.00*
Suicide Mission™ .................. $14.95 + 2.00*

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Now play all those Vector™ Commercial Video Games in your
home exactly as they play in the arcade—without a TV set! A great
addition to your Atari® Video Computer System™ or Intellivision™
game collection. See graphics
not possible on a normal
raster scan TV! The
unit has a built-in
9" Vector monitor
and a built-in
space game
called Mine
Storm™

We have Vectrex™ in stock for only $199.00 + 5.00; with one
controller. Extra controller $34.95 + 2.00; The unit must be
ordered with at least four cartridges at $29.95 each + 2.00;
Your choice of:
Scramble™ Space Wars™ Cosmic Chasm™ Clean Sweep™
Star Trek™ Rip Off™ Armour Attack™ Blitz Football™
Solar Quest™ Star Hawk™ Berzerk™ Auto Race™

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(Dealer inquiries welcome.)
**MINI-ARCADES ‘GO GOLD’**

**Pac-Man.** Coleco’s popular mini-arcade, has become the first stand-alone electronic game to achieve the equivalent of the music industry’s gold record. In fact, the 1.5 million units sold thus far would entitle Pac-Man to a platinum disk.

Coleco reports that it has advance orders for 4 million units of its first four titles in this line. Besides Pac-Man, these include Galaxian, Frogger and Donkey Kong. The latter two are reaching stores in time for Christmas.

---

**E.G. READERS PICK THEIR FAVORITE GAMES**

**Most Popular Videogame Cartridges**

<table>
<thead>
<tr>
<th>Position</th>
<th>This Month</th>
<th>Last Month</th>
<th>Game</th>
<th>System</th>
<th>Manufacturer</th>
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<tbody>
<tr>
<td>1</td>
<td>—</td>
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<td>Defender</td>
<td>Atari</td>
<td>Atari</td>
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<td>1</td>
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<td>Pac-Man</td>
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<td>3</td>
<td>4</td>
<td>4</td>
<td>Demon Attack</td>
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<td>Adventure</td>
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<td>Astromash</td>
<td>Atari</td>
<td>Mattel</td>
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<td>—</td>
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<td>Yars’ Revenge</td>
<td>Atari</td>
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<td>Starmaster</td>
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<td>Missile Command</td>
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<td>Major League Baseball</td>
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<td>K.C. Munchkin</td>
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**Most Popular Computer Programs**

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<td>Castle Wolfenstein</td>
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<td>Muse</td>
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**Most Popular Coin-Op Videogames**

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<td>Donkey Kong</td>
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<td>—</td>
<td>—</td>
<td>Galaga</td>
<td>Midway</td>
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</tbody>
</table>

**Readers Choose Top Games**

Since mere quantity of play doesn’t necessarily equal actual popularity, Electronic Games bases its standings on the votes of its readers. These lists of most popular games are based on the more than 800 Reader Polls. We update the ‘picked hits’ lists in every issue of Electronic Games.

So send in your votes!
INTRODUCING THE SYSTEM CHosen
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Exclusive built-in screen for real arcade play - No TV set needed!
A revolutionary breakthrough! Only Vectrex delivers fantastic real arcade sights, sounds and challenge. Unlike Atari and Intellivision, Vectrex has a real arcade screen and sound system built in! No TV set needed! Real arcade controls too: a 360° self-centering joystick and four action buttons put power-packed fun at your fingertips!

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The fast-paced fun of Mine Storm™ is built into the Vectrex console. And for more real arcade variety, plug in Vectrex cartridges like Berzerk®, Scramble!, Rip Off® and Armor Attack. Or choose exciting new Vectrex games like Clean Sweep®, HyperChase®, Cosmic Chasm and many many more! With still more on the way!

Convince yourself!
Compare the Vectrex Arcade System with any ordinary home video game system. You'll discover why most Atari and Intellivision players say Vectrex plays more like real arcade games than their own systems!

THE VECTREX™ ARCADE SYSTEM!

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**THE NATIONAL ARCADE SCOREBOARD**

The best scores for popular videogames.

Photos of readers' best scores are really pouring into the offices of Electronic Games, and the competition among the land's arcade aces is even keener than expected. There are plenty of top players out there, and the rankings listed here show that they're hitting the joystick hot and heavy in a bid for national recognition.

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

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

1. Every score must be accompanied by a photograph of the TV screen showing the score. These photos do not have to be of publishable quality, just readable by our judges.

2. All photographs received become the property of Electronic Games and none can be returned.

3. Be sure to include your complete name and address. (We will print only the name and city in the magazine, but we may want to contact high scorers for helpful gaming hints.)

Games currently eligible for the National Arcade Scoreboard are:

- **UFO** (Odyssey)
- **Asteroids** (Atari VCS) — Game #6
- **Grand Prix** (Activision) — Game #4
- **USAC Auto Racing** (Mattel) — Course #1
- **Galactic Invasion** (Astrocade) — Difficulty #1
- **Spacechase** (Apollo) — Game #1

New additions to the list this month are:

- **Defender** (Atari VCS) — Game #1

**THE INCREDIBLE WIZARD** (Astrocade) — One player, Easy Difficulty

**Space Hawk** (Mattel) — Game #1
(Auto-fire if desired)

**Pac-Man** (Atari VCS) — Game #1

**THE HONOR ROLL**

**UFO/Odyssey/Odyssey²/Game #1**
1. 1,636 — Lee Raymond, no address given
2. 1,575 — Jim Peterson, Farmington Hills, MI
3. 1,461 — Marlon Burns, Chicago, IL

**Asteroids/Atari/Atari VCS/Game #6**
1. 199,930 — Edward Semrad, Waukesha, WI
2. 129,460 — Robert Prindle, Erie, PA
3. 114,130 — Steven Zadra, Fairbanks, Alaska

**Grand Prix/Activision/Atari VCS/Course #4**
1. 1:14:39 — Mike Ratliffe, Charleston, SC
2. 1:42:12 — Mark Martell, Brooklyn, NY
3. 1:43:93 — Darrin Yamamoto, Bonita, CA

**USAC Auto Racing/Mattel/Intellivision/Course #1**
1. 2:58 — John Bunk, Johnston, PA
2. 2:59 — Donald Smith, Pease AFB, NH
3. 3:02 — Don Gaze, Ontario, Canada
4. 3:02 — Ken Debek, Glendale, AZ

**Galactic Invasion/Astrocade/Astrocade/Difficulty #1**
1. 99,999 — Steve Sabolich, no address given

**Spacechase/Apollo/Atari VCS/Game #1**
1. 38,500 — Bill Kunkel, Kew Gardens, NY
stars like to play.
The answer will hardly come as a surprise to EG's loyal readers: **Pac-Man** is the game of choice for today's superstar. Cher, for example, recently made headlines by requesting a **Pac-Man** coin-op be placed in her Las Vegas dressing room, while Reggie Jackson, star slugger for the California Angels recently was given an arcade gobble game by his agent as a birthday present. Everyone — from man-on-the-street to star — loves **Pac-Man**.

---

**BEESTEAK CHARLIE GETS GOBBLIN**

The highly successful restaurant/tavern chain, Beesteak Charlie's is installing a number of leading coin-ops in selected locations on an experimental basis. What's so experimental? The games are all set on unlimited free play. (For convenience, free tokens may soon be used if the owners aren't happy with the results.)

The innovative chain hopes the gift of games will raise attendance, along with the take per night. Since the games are free, the new night spots don't fall under NYC's ludicrous anti-arcade laws.

Opening night was a big success, with patrons busily blasting away on Beesteak's nine machines. More locations are gearing up, with an even greater array of games planned for each.

---

**STUDENTS WORKING HARD TO PLAY**

A new incentive program for students of all ages has recently been implemented on a trial basis by all 40 Malibu Fun Centers.

Each report card "A" earns the student five free tokens, and each "B" is worth two tokens. Students are welcome to bring their cards and cash-in on weekends or weekday afternoons, because Malibu seriously enforces rules barring school-age kids from the arcades on school time. Even so, over 200 tokens per day are being given away at each location.

"The program is producing a lot of good feelings among teachers, parents and kids. Many kids seemed to buckle down a lot harder because of the gaming incentive, and due to its success this year, we will probably repeat the program during the next school year," informs Peter Frey, spokesman for Malibu Centers.

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**DONKEY KONG IS COIN-OP KING**

While **Defender** and **Star Raiders** held onto the top positions in, respectively, the videogame cartridge and computer program categories, **Donkey Kong** has scaled the heights of coin-op popularity according to this month's poll of EG readers. Nintendo's standard-bearer, which is shortly to have a sequel called **Donkey Kong Jr.**, forced **Atari's Tempest** out of the top slot after only one month. **Defender**, by **Atari**, notched its second straight first place finish and now appears to be well on its way to attaining classic status. Many consider it the company's best design since **Missile Command**, and no other cart comes close to matching its popularity among players at the present time.

**Activision's** most recent pair of game releases, **Starmaster** and **Chopper Command** have both clicked with the public in a big way. Both made the list during their first month of eligibility, and now they've moved up further to rank just behind **Defender**.

New releases making the best showing among the videogames were **Night Stalker** (Mattel for Intellivision) and **The Incredible Wizard** (Astrocade). The former is a maze chase, while the latter is a superb home version of **Wizard of Wor**.

In the computer gaming field, **Star Raiders** and **Missile Command** held onto their first and second place rankings. **Pac-Man** inched up to third, giving the Sunnyvale, CA company a clean sweep of the top runs on the popularity ladder.

**Caverns of Mars**, which recently moved from the APX line to **Atari's** regular roster, has clearly benefited from the change. It joins the list this month in the sixth spot. Also making its debut is Datamost's **Thief**, a fine maze shoot-out that is only just beginning to get the attention it deserves. Returning after a short absence is Mike Potter's **Protector II**, his excellent revision of **Protector** for Synapse Software.

Several notable events occurred in the coin-op category this month. For the very first time, Ms. **Pac-Man** has passed the original gobble guy in popularity. Its zippier graphics and multiple mazes are winning over the maze-maniacs by bit by bit, apparently.

Several coin-ops cracked the charmed circle for the first time. Midway's **Tron**, the videogame version of the Disney movie, made the biggest splash and looks like an instant hit. Doing very nearly as well were **Dig Dug** (Atari) and **Robotron** (Williams), which also pushed into the top 10 for the first time.

Standings presented here reflect popularity at the time the latest poll was conducted, late August. There are likely to be big changes on these lists when sales start to soar during the annual gift-giving season.
Ed: We can and did. A few quick phone calls have determined that the Express has run off the tracks. Attempts to contact Fred Cornett, the newsletter's publisher, have so far been unsuccessful. Keep an eye out, however, for the January issue of EG which will contain a piece entitled

ROBOTS GALORE!

I absolutely loved those adorable little robots pictured holding the special controllers and joysticks in your September issue ("Better Control for Your Games"). Were the mechanical men constructed especially for that photo or are they real toys?

Hannah Noonan
Tampa, FL

Ed: Those little robots you saw in the photo are all actual toys, loaned to EG for that shooting session by the wonderful folks at FAO Schwarz, where they can all be purchased along with enough other goodies to keep grandma broke for a year-and-a-half and grandchildren delighted even longer.

EXPRESS STOP?

I am a long-time owner of the Bally/Astrocade and the original Bally BASIC cartridge. Subscribing to the Arcadian and Bally Express newsletters more than adequately filled the void left by the lack of new games produced by Bally or Astro.

Last year, without warning, I stopped receiving the Express. They don’t answer our letters and they still owe me a year’s subscription. Can you investigate?

Alfonzo Smith Jr.
Cleveland, OH

CASTLE OF HORROR (WAVEMAKERS)

"The Astrocade Underground", the saga of the gamers who refused to take the lack of new software lying down. The article will deal with the various independent game designers, such as Mike Peace of Wavemakers, and the publications, such as the new software source book and Bob Fabris' Arcadian.

TALES OF NINE KEYS

My name is Bernard Lewis and in the August ‘82 issue of EG you said I was the first to submit a "pattern" for the VCS version of Pac-Man. You also said you would send me a "Midway version ninth key—the very first time we get that far." Was that a joke or what? If not, what is a "ninth key"?

Bernard Lewis
Laurelton, NY

Ed: Actually, Bernard, it was a joke, but there most certainly is a ninth key
RICK COLBY THOUGHT HE WAS HOT STUFF.

Too bad about Rick. He was sure he could beat almost any game made for his Atari® Video Computer System.
Then he played Imagic's Fire Fighter.

Rick knew he was in trouble the second he leaped off the fire truck and began hosing down the flaming warehouse.

As the fire leaped from floor to floor, and the panicked victim climbed higher and higher, Rick tried desperately to reach the top floor with his ladder.

But it was just too late. The warehouse was turned into a burnt-out shell.
And so was Rick.

Please don't let this happen to you. Fire Fighter and all of Imagic's video games are created by experts for experts. Do not play this video game if you are a weasily, weak, uncoordinated nerd. Unless you want to wind up like Rick.

©1982 Imagic

Created by experts for experts.
in the Midway version of the coin-op Pac-Man. Unlike the VCS adaptation, where the bonus items are unchanging blocks, the coin-op goes through a virtual shopping list of symbolic bonus items. Initially, players get fruit — apples, lemons, cherries — and eventually work up to a series of nine keys, attained one at a time. Only the very finest gamers, however, ever get to see that elusive final key.

**A READER’S THANKS**

I just got ahold of The Players Strategy Guide to the Atari VCS, and I must say that it is one of the two top books in the field (the other being Ken Uston’s Guide to Buying and Beating the Home Video Games.)

I tried several of the book’s ideas on my friend’s VCS machine and was able to improve my skill at several games. However, I was disappointed that the book only had a small selection of the cartridges available. Recent games like Defender and Space Cavern were missing, and I’m sure many of your readers would like to know how best to play some of these games. If you don’t plan to release a sequel in the near future, may I suggest a monthly column in which you give a detailed strategy for one or two games.

David Jenkins
Flushing, NY

Ed: Glad our first Dell/Reese strategy guide is doing some good. Of course, the games you mentioned will be covered in our next volume. They just weren’t yet available when the book went to press. Besides, we at EG believe that you’ve got to spend a bunch of time on a game before you can really produce a helpful strategy guide.

The column you suggested is already in the magazine! “Strategy Session” is packed with score-building hints.

But speaking of games that weren’t included in our original strategy guide, how about pondering this: as many new games have been announced since we went to press as existed before we wrote it! Whew.

**EDITORIAL GOOF**

In your July issue there was a strategy plan on K.C. Munchkin that stated the munchkin travels full-speed through the side tunnel while the munchers travel at half their normal rate. I’ve checked that with my own cartridge and the munchers pass through the tunnel at normal speed. Is there something wrong with my cartridge or is it an error on your part?

Alex Chan
address unknown

Ed: You got us, Alex. That helpful tip was actually added by a copy editor who needed to lengthen a line and who assumed that the tunnel in K.C. worked in the tradition of previous maze chase games. Wrong-o. The munchers do, indeed, travel at their normal speed through the scrolling tunnel. And the editor in question (oooh!) promises never again (wham!) to inject personal (thud!) strategy tips into Frank Tetro’s (ouch!) column.

**MECO TRIUMPHS ON ZAXXON!!**

Just a note to let you know that I have captured the current high score on Zaxxon—849,650—documented at the Broadway Arcade. I played from 10:30 a.m. to 11:45 a.m.

Meco
New York, NY

Ed: Congratulations, Meco! For our readers who might find Meco’s name unfamiliar, incidentally, he’s the extremely talented musician who scored the hit disco versions of movie themes such as “Star Wars” and “Close Encounters of the Third Kind”. Now, what other worlds lay ahead for this multi-talented arcader to conquer?

**ANTIQUE GOBBLERS?!!**

Perhaps you thought that Pac-Man was a product of the 80’s? Well, this snapshot taken of a small section of a 1925 period quilt is proof positive that Grandma had more on her mind than just needlework and cooking. So here’s looking at your “roots”, Pac-Man!

Phil Pollack
Tallahassee, FL

Ed: Jumpin’ joysticks! Obviously, our hungry friend is a lot older than he looks. Perhaps somebody ought to mention this to Ms. Pac-Man?

That about wraps it up for this issue’s letters. We genuinely appreciate all the response we get from arcader’s the world over. The hardest part is deciding which letters to use! So till next month, may your wires stay untangled and keep on gaming!
GARY LARSEN THOUGHT HE HAD ALL THE ANSWERS.

Gary had an IQ of 162. He never got anything less than an ‘A’ on his report card. He was a wiz at chess.

Then it happened.

Gary plugged Imagic’s Riddle of the Sphinx into his Atari Video Computer System.

As Gary slowly, carefully made his way across Egypt’s mysterious Valley of the Kings, he was attacked by rock-throwing thieves, plagued by scorpions, and tortured by thirst.

Yet he went on.

After passing the Sphinx, the Temple of Isis, the Great Pyramids, he reached the Temple of Ra where he presented all his treasures.

Unfortunately, he did not have the correct offering. Ra was not satisfied. Gary had to go back and try again.

And again. And again. And again. And again. And again. And again.

Here you see Gary as he is today. A veggie. Zonked out. Totally.

This is a warning. Imagic games are created by experts for experts. Do not try to solve the Riddle of the Sphinx if your IQ is equal to or less than your belt size.

After all, a brain is a terrible thing to try.

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Created by experts for experts.

For Atari® VCS.
There are videogames based on movies, and there are movies based on videogames. So why not a videogame based on a movie based on videogames? Sounds simple, right?

Forget it. By the time Bally/Midway had its finished version of the Tron-based coin-op, over fifteen skilled artisans had worked on well over 20 different assignments.

In the early days of videogames, each was pretty much one man's creation. The concept, graphics, visuals and ultimate programming were all the vision of one mind. But when you stop to think about the high-speed world of videogame production, it's only natural the age of teamwork and specialization had to dawn. And the trend isn't entirely motivated by hardly all financial and schedule considerations. After all, what are the odds of one person being a conceptual genius, an audio and video graphics wizard and a master programmer capable of accurately transcribing that vision into assembly language or BASIC?

The result is the development of the team concept. A nucleus of five or so honchos ride herd over a gathering of specialized computer entertainment talent, a system the Japanese have long used. Always quick to spot a good idea (they coped the U.S. rights to such smashes as Galaxian and Pac-Man), Midway started to sharpen its own software sword, a keen weapon with a double edge.

The brand new Midway software development group has not only produced such incredible games as Kickman, with its involving graphics, but is also turning out the new VCS-compatible CBS Video Games line as

---

The tanks used by Sark to track Tron are seen in Tank Maze
Midway intends to simultaneously release both the arcade title and the home version of the very same game!

The designers were assigned to projects under the Game Design Team composed of John Pasieb (V.P. Engineering), Bill Adams (software), George Gomez (mechanicals, storyboards, video and cabinet art, among other things—just to keep his hand in) and game-playing superstar Atish Ghosh, the hardware ace. Six people worked on nothing but designing the distinctive cabinet, with its holographic backboard and luminescent joystick. Along with George Gomez, John Marcus and Sharon Barr worked on the game’s highly distinctive and varied graphics.

Once the talent was gathered, there was still the trifling matter of actually producing a game. Midway decided to let a free-lance design staff work on a version while its own group, which had proven itself in terms of both quality product and meeting deadlines with Kickman, produced an in-house try at a Tron coin-op. The two teams worked miles apart from each other with what amounted to a quick scan of the shooting script and a few reels of special effects.

Anyone even tangentially involved

(Left) MCP sequence from Midway’s Tron (Right) Midway’s realization of Light Cycles

TRON:
FROM GAME TO FILM
AND BACK AGAIN
with the world of moviemaking knows that shooting scripts change, metamorphize, melt and sometimes disappear entirely by the time the ultimate product hits the screens.

Using those sketchy foundations, Gomez started to work on storyboards—large drawings representing what the final framed camera shot should look like—that would depict the various playgrounds. They had originally wanted six sequences, but the four games that eventually evolved already stretched Atish's futuristic hardware to its limits.

"There was also the problem of the approach," one designer explained. "We obviously could've gone one of two ways. We could have concentrated on the actual arcade games at Flynn's (for those unfortunate who haven't seen Tron, Flynn is the game designer/User who enters the computer domain at the MCP's hard-to-turn-down-invitation). Unfortunately, the Space Paranoids sequence in the arcade doesn't utilize an actual game but just projects computer effects onto the monitor. In other words, we're a few years away from that level of visuals in videogames. The other approach, which we obviously went with, was to create games from the various game-type adventures Flynn has on the Game Grid."

Changes were rampant. At one point, deadly spores were to appear in the film. They were part of the Grid-Spiders scenario where Tron must make his way to the I/O tower, the great constructs through which data passes in and out of the computer. Sark, under the MCP's command, has shut down all the I/O towers and has begun a campaign to make the anthropomorphic Programs believe that the Users in the "real world" are merely mythical, quasi-religious delusions. The towers, therefore, are fiercely protected by the grid-spiders (seen only for an instant during the film's Solar Sailor sequence) which must be destroyed in order to enter the necessary to bank shots and keep moving as it takes three hits to destroy the MCP's armored dreadnoughts.

The most straightforward of the quartet of challenges that comprise the first rack of Tron is the Light-Cycle sequence. "This was just Checkmate with enhanced graphics," points out one of the team members. He is quite correct. On rack one, the player guides a light-cycle which leaves a solidly destructive wall behind it against a similarly armed cycle. The object is to stay alive longest, without running into anyone's walls. This scenario becomes especially intriguing at the second rack, however, as the arcader must take on three cycles!

The toughest of the four mini-games may well be Tron's finest scenario. At the cataclysmic finale of the film, Tron, the last great warrior to fight for the Users and an ally of Flynn's, must hurl his disc at the whirling defensive wall the humanized MCP has throw up around itself. Ultimately, Flynn leaps into the MCP, disrupting it long enough for Tron—who was originally programmed as a sentry on the MCP!—to hurl his disk, containing the re-programmed information obtained at the I/O tower into the MCP.

Continued on page 42
PLUG IN SUPERIORITY

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General Consumer Electronics has issued an Emancipation Proclamation for home videogames. The West Coast-based company, best known until now for its line of gameplaying wristwatches, has introduced a new programmable videogame system, Vectrex, which is totally liberated from such units' traditional dependence on the availability of the family television set.

There's no more fighting over whether to play a goble game or watch a rerun of "Gomer Pyle", because the Vectrex is designed around its own 9-in. diagonal monitor. It won't exactly slide into your hip pocket, but the Vectrex is small and light.
It's 110° in the shade. And you're about to have the time of your life in the most exciting road race ever created. BAJA BUGGIES™ by GAMESTAR. For the ATARI™ 400/800™ Home Computers.

It's just you and your super-charged machine against some of the best race drivers in the world. "Legends" like A.J. Cactus, Mario Sandduni, and Parnelli Pothole. Each determined to push you to your limits, race after race.

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So climb into your buggy, put on your helmet and get set for a little fun in the sun—BAJA BUGGIES™ by GAMESTAR. Look for it at your nearest ATARI™ retailer.
enough to go anywhere there’s a 110-volt AC power source. (If GCE ever produces a battery power pack, Vectrex machines could become as common as those huge music blasters on the nation’s beaches next summer.)

The Vectrex display screen is no ordinary monitor, either. Unlike the standard American television, which utilizes rasterscan, this fun machine introduces the first vector graphics monitor in the entire home arcade field. Like coin-op games such as Asteroids, which also use this type of monitor, the Vectrex presents delicately etched line drawings in brilliant black and white. The electronic artwork produced by this technology also has a very pronounced three-dimensional perspective that is especially effective in the outer space games.

Color is obviously of great importance to most videogamers, some of whom are probably cringing at the mere thought of playing a game in—ugh!—black and white. It’s hard to believe until you see it with your own eyes, but the absence of color really isn’t as damaging as you might think. The on-screen images are so brilliantly luminous that it is almost possible to forget—and forgive—the lack of crimson deathrays and rainbow-colored explosions.

GCE’s designers have produced overlays for the cartridges which do much to soften the monochrome effect. They are made of heavy gauge, flexible plastic and fit snugly into the special grooves on the machine which are located at the top and bottom of the display monitor. They are beautifully executed, virtually as good as anything you’re liable to see on a coin-op machine. Particularly in games like Rip-Off and Solar Quest, the overlays are often so skillfully done that they very nearly take the place of authentic color.

The panel-type controller of the Vectrex is an absolute delight. The extremely sturdy unit consists of a pint-size metal joystick with a line of four buttons immediately to its right. Many players have approached the miniature stick with skepticism, but most who’ve tried it rave about its sensitivity. It may be tiny, but it moves objects around the playfield as promptly as any arcade ace could wish.

Having four buttons instead of the customary one gives designers of the Vectrex cartridges a lot of latitude in creating control schemes for the games. Each contest employs a different combination of buttons and a stick to handle commands from the player. As a handy reminder, the overlay for each cartridge identifies the purpose of every control in use at the bottom of the screen.

The controller provided with the game—a second for use in two-player competition must be purchased separately—locks into its storage niche, which is situated just below the screen on the front of the machine. Once this command unit, which is attached to the machine by a plug-in telephone coil wire, is removed, the Vectrex’s small control panel becomes visible. There are jacks for two controllers set one directly above the other, a combination on/off switch and volume control, and a reset button. Players use the buttons on the controllers to choose the game variation on cartridges which have such options.

GCE hasn’t overlooked the contribution good audio makes to electronic gaming, either. When the volume knob is set high, the Vectrex is fully capable of filling a room with arcade-like noise. And if you have the urge to play a quick game of Mind Storm in the middle of the night, the level can be set so low only actual players can hear it—or cut off altogether if that’s what’s necessary.

The cartridges plug into a small slot on the right side of the machine. The fit is snug, though you won’t have to force the ROM into place with so much pressure that you’re risking damage to it.

The Vectrex gives gamers a bonus in the form of Mind Storm, a thoroughly enjoyable space contest that resembles Asteroids in its overall play routine. It is resident in the machine and comes up automatically whenever the machine is activated and there is no cartridge in the slot. With the possible exception of the Donkey Kong cartridge that comes with the new ColecoVision, this is about the best game ever distributed with a system as a resident program or free in-pack cartridge. It’s good enough that most gamers would probably want to rush out and buy it if they didn’t get it as part of the system.

In Mind Storm, the arcade captains a starship which has the tricky mission of destroying the mines which a giant alien vessel has dropped throughout this quadrant of space. There are four types of mines: floating, fireball, magnetic and fireball/magnetic combinations.

The human pilot rotates the craft using the joystick, while the three active buttons ignite the engines for thrust, move the ship instantly to another part of the playfield through
Vedrox

ARCADE SYSTEM CARTRIDGE

SCRAMBLE

use of a
hyperspace jump,
and fire the ship’s laser.

Star Trek is another fine space game
for a system that specializes in futuris-
tic thrills. It’s a space piloting contest in
which the arcader takes the controls of
a space fighter and then attempts to
single-handedly make the universe
safe from alien invaders.

The contest is organized as a series
of sectors, each one a little harder than
the one which preceded it. There’s also
a way to cut through all the labor of
clearing out one sector at a time and
zoom directly into the final confronta-
tion with the mothership. Maneuver-
ing and shooting consumes energy at
an appropriate rate so that really ag-
grressive pilots may run short of fuel
before the enemy has been dealt with
entirely. There’s a friendly space sta-
tion in each section, however, which
allows you to refuel. The process of
docking is simple, but once you’ve vis-
ited a particular station, it will cease to
exist, so there’s some judgement in-
volved in deciding when the best time
to restock might be.

Hyperchase is a multi-scenario road
racing game for one or two players.
Drivers steer with the joystick and use
the buttons to change gears, apply the
gas or slam on the breaks. Unlike many
such games, Hyperchase is not the sort
of auto game in which the arcader
simply floors it and then holds on for
dear life. As the course goes through
various types of terrain, including ev-
erything from a desert wasteland to a
mountain tunnel, the player will have
to change speeds and shift gears up
and down or risk barrelling into one
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<th>Game</th>
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<tr>
<td>Nintendo Donkey Kong</td>
<td>$34.95</td>
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<tr>
<td>Fire Attack</td>
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<td>Snoopy Tennis</td>
<td>$24.95</td>
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<td>Turtle Bridge</td>
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**KING OF THE STAND-ALONES Continued**

smash-up after another.

The Hyperchase cartridge includes two different versions, each playing by one or two. Game #1 gives you an inexhaustible supply of vehicles and should be used for practice sessions. The other is the race itself, in which gamers must compete to see who can tote up the greatest mileage with five autos.

Scramble could turn out to be the system seller. That is, this is such an outstanding home edition of Stern's coin-op favorite that it could be the spark that gets consumers to part with their hard-earned money for a Vectrex. It features multiple playfields, good sound and the constant action that makes this particular contest so popular with arcaders from coast to coast.

Other games already available for the Vectrex include Rip-Off, Solar Quest and Clean Sweep. Another six to eight games will fill out the line sometime this winter.

The only software problem, if it can be called that, is that there is such a strong emphasis on space games at the expense of other topics. Of course, the vector graphics monitor is especially adept at presenting this type of design, so Vectrex's designers were doubtlessly trying to lead with their strongest suit. Subsequent cartridge releases will probably balance things a bit.

Even at its list price of nearly $200, the Vectrex is a system which offers some unique advantages to the home arcader. It is well-designed and solidly manufactured—and plays some of the most exciting games you'll ever see in your living room. Right now, at this moment, Vectrex is truly the King of the Stand-Alones.

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By BILL KUNKEL AND ARNIE KATZ

PLANET PATROL
Spectravision/Atari VCS

The horizontally scrolling shoot-outs have achieved enduring popularity among electronic gamers primarily because they offer such varied play possibilities. Players seem to adore the experience of zooming over constantly changing terrain, plunking the helpless from the jaws of death and blasting the enemy ships right out of the sky. As a result, examples of this genre such as Defender, Stargate, Chopper Command, The Empire Strikes Back, Space Jockey, Scramble and Protector II rate very highly among players in every format from coin-op to stand-alone.

One of Planet Patrol’s most unusual features—unique at the time this is being written, in fact—is that the action goes from right to left. The arcader uses the joystick to guide an on-screen craft, which casts a shadow on the ground as it flies overhead, through a series of challenging adventures.

The first phase of the mission is a doubleheader. Your ship must battle with a fleet of alien invaders which is nestled within a deadly asteroid field. The pilot must destroy the enemy force while carefully avoiding collisions with the space rocks. When this task is accomplished, the player’s ship must rendezvous with a pilot who is stranded in space.

The second part of the mission is pure avoidance. The arcader must blow up three horizontally stacked fuel depots. The explosion carries the debris across the entire playfield. The program then hurls the ship through the shrapnel at double speed while the pilot tries to steer a safe path through the danger.

Another docking sequence follows this phase. Here, the gamer must refuel and dock with another stranded pilot who needs to be rescued. Although it at first appears to be a replay of the opening phase, first-time players will begin to wonder about their eyesight. There’s nothing wrong with the old peepers; however: it’s simply the onset of night. Slowly, darkness creeps over the playfield, turning the planet’s bright red sun into a crescent moon. The only light...
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your way to the finish of this scenario is to fire off a round. The blast illuminates the entire screen for an instant. Strategically, therefore, the play should keep the ship hugging either the top or bottom of the playfield, firing almost constantly while ducking asteroids and hitting enemy spacecraft.

But watch that itchy trigger finger! You don’t want to forget that poor stranded fellow-pilot. Accidently icing the guy you’re supposed to rescue will cause this scenario to begin all over again.

The sound and graphics are not the most sophisticated available, but there is so much happening in this game that you won’t have a lot of time to dwell on the fact. This is quite an impressive bow from Spectravision and Planet Patrol bodes very well for games to come.

PIRATE CHASE
Astrocade/Astrocade

Meet the game in the plain brown wrapper. Pirate Chase is a two-player contest that may well prove highly habit-forming to videogamers. It really doesn’t look like much, but its play mechanic certainly produces a bumper crop of close calls and thrilling confrontations.

Using the joystick portion of the Astrocade controller, each player moves his on-screen symbol vertically, horizontally or diagonally across a rectangular playfield composed of regularly spaced dots. The result is something that might be called a maze-less gobb-ble game, since passing over a dot removes it from the screen and adds its point value to the appropriate player’s total. Periodically, special bonus prizes appear at random points on the screen (but always replacing an ordinary dot).

These are generally worth 100 points multiplied by the level at which the game is then being played. After the combatants cycle through an array of trinkets and goodies, the game returns to the first bonus prize for another go-around.

Besides racing against the other player to see who accumulates the greatest number of dots and bonus objects, both joystick wielders must always flee from the pirate. This nautical no-goodnik, symbolized by the traditional skull and crossbones, takes one of the player’s precious lives whenever it catches up with the corresponding symbol on the playfield.

The missing ingredient—about the only one in an otherwise solid cartridge—is the visual element. Pirate Chase doesn’t look all that attractive, though “plain” would be a better description than “ugly”. Let’s hope that Astrocade owners have the sense to look past the wrapping to see the gem buried inside.

If electronic game-lovers are able to unshackle themselves from the prejudices of this intensely graphics-oriented period in the hobby, their reward will be a first-rate action contest. Its non-stop play routine, although admittedly somewhat repetitive in longer rounds, is positively riveting.

One of the key factors which does the most to build excitement during play is the intentionally imprecise steering. It is really quite difficult to steer a straight course, much less make sharp turns. As a result, both players frequently end up circling a particularly juicy bonus object like flies buzzing around a pot of honey.

As must be the case with any game that includes an open playfield and a merciless robot attacker, strategy is fairly fluid in Pirate Chase. In general, the best advice is to make as few turns as possible when scooping up all of the dots and prizes. That golden scoring opportunity occurs when the pirate has caught the other player and your symbol is still active. This is the time to concentrate on hitting the bonus objective.

Pirate Chase’s dull visuals not-withstanding, offers the rare chance to compete head to head.
NIGHT STALKER
Mattel/Intellivision

Mattel's contribution to the maze shoot-out craze that began with Berzerk provides yet another example of what happens when there isn't a smooth partnership between the hardware and software. This game might have been a classic had it not been sabotaged by a difficult-to-use control scheme.

This single-level solitaire contest begins with the arcader's on-screen counterpart sitting snug in the "safe house" located at the center of the labyrinth. As long as the hero stays inside, he is invulnerable to anything but the most dangerous of the killer robots. Besides the five types of deadly robots which patrol the corridors on the watch for the player, there is an assortment of nuisance monsters such as bats and spiders. Although they can't kill the player, they can cause problems. When one bites or stings the on-screen hero, he stagers momentarily, and if there is a robot on his track at the time—that can spell the end of the game right then and there. Using the direction disk, the player guides the surrogate North, South, East or West. As usual with this controller, the disk's precision is inadequate. Compared to the game's firing system, however, it works like a dream. As Night Stalker begins, a white pistol appears at one of several random points on the playfield. The adventurer must reach the pistol in order to reload his own weapon. Each weapon carries six shots, good enough to dent even the toughest robot's hide.

Until the player reaches 5,000 points, the only killing machines he must face are the slow-moving grey robots. The blue robot makes a debut at this point. It's a lot faster. At 15,000, a white robot appears. It takes three shots to stop this one. The fearsome black metal menace shows up to challenge the real sharpshooters at 30,000 points. This dude can launch energy bolts that destroy bullets! Players who haven't cried "Uncle!" by 80,000 points get a not-so-friendly visit from robot numero five. This one is not only rougher and tougher than his predecessors, but he's actually invisible! The only clue to his presence is a blast from his weapon, usually right into your adventurer's surprised face.

The run-and-shoot action is really clever and entertaining. Night Stalker could easily be among the best of this year's new videogames if the firing routine wasn't so eccentric. Every other maze shoot-out employs some variation of the same basic firing technique: the player points the joystick (or disk) in the desired direction and presses the action button.

It is pointless to speculate on why Mattel designers ditched this set-up in favor of working the keypad into the action. The mylar overlay provided with the game shows four guns, each pointing in a different cardinal compass direction. The player must press the gun pointing North on the overlay to fire a bullet toward the top of the screen. (There's no diagonal firing at all, a rarity in this type of contest.) This system requires the gamer to look down at the controller periodically to position fingers for the next blast instead of focusing complete attention on the playfield. Looking back and forth isn't quite as objectionable in sports games like NFL Football and Major League Baseball, but it certainly takes some of the joy out of this cartridge.

The toughest part is that the arcader must press exactly the right spot on the overlay to get anything to happen. Some players are trying Night Stalker without the overlays altogether. They just memorize which four buttons work the gun and, at the very least, fire the weapon every time it's needed.

Night Stalker is a game that would not be nearly so infuriating if it were not so outstanding in almost every other respect. It is recommended, but with some strong reservations.

LOST LUGGAGE
Games by Apollo/Atari VCS

You can't play a good sense of humor. Clearly, there's an amusing social critic working for this Texas-based software publisher. Lost Luggage banishes the usual killer robots and insane alien attackers to grapple with a situation which almost everyone who regularly flies commercial airlines has probably faced at least once: madness at the baggage claim carousel.

After the arriving flight taxis along the runway at the top of the screen, luggage starts shooting off the conveyor belt in all directions. As the director of a team of two skyscapers, the arcader must move the men around the field with the joystick so as to catch all the bags before they hit the sides or
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FROM MATTEL ELECTRONICS®
bottom of the playfield. The skyscaps
move as a unit, and some players may
find it more aesthetically pleasing—
not to mention a lot more
challenging—to use the upper
difficulty setting to cut back to a single
on-screen bag-grabber.

There are three already claimed suit-
cases located at the bottom of the
screen. Each time a bag gets past your
character, one of these pieces of lug-
gage vanishes. When all three are
gone, the game is over.

To add injury to insult, there are
some terrorist satchels mixed in with
the more harmless cases. If one of
these gets through, it explodes to end
the game immediately.

Every caught bag is worth four
points. Once you've collected all the
luggage from a flight, another one
touches down. Each wave is harder
than the last, with point values rising
one point per bag per round.

The most obvious thing which can
be said about Lost Luggage is that it is
more than a little similar to Kaboom!
(itself similar to the coin-op Av-
lanche). There are some obvious dif-
ferences, of course. These include the
fact that Kaboom! uses a paddle while
Lost Luggage lets the player range the
entire screen, and that all the falling
objects spew from a common central
point in Lost Luggage. Still, the same
basic strategy that works in Kaboom!
should work just about as well in the
Apollo title.

The graphics are a trifle uneven.
When a bag explodes, it bursts open to
reveal all kinds of clothing, and the
landing of the plane is also well done.
Yet the playfield is almost featureless.
It might have been better design to
trim a couple of the frills and put some
obstacles on the screen around which
the skyscap would have to maneuver to
to get to the bags.

It would be unfair to be-
rate Lost Luggage too much.
Although it does not have
the spark of greatness, it
is a solid, playable contest
that can really test a
player's hand-
eye coordi-
nation.

But even the greatest concept cannot
make a great game when it isn't
blended with an outstanding type of
play action. Still, Games by Apollo is to
be commended for veering away from
the typical SF shoot-out.

MEGAMANIA
Activision/NCS

Here's something really different in
an invasion game! You're an astronaut
in the far future. After a particularly
hard day of intergalactic dogfighting,
you overdo the junk food a bit. Sitting
at the planetary control panel, you
doze off into the most bizarrely com-
pulsive videogame nightmare ever
conceived by man. Wave after wave of
junk food—and some
plain old junk—
whizz toward you
from every imagin-
able direction. It's
up to you to de-
stroy them with
the horizontally-
mobile cannon sta-
tioned at the base of
the playfield.

Whoever
dubbed
Steve

Cartwright's second Activision vid-
eogame (following Barnstorming)
Megamania had the right idea. This is
definitely the most habit-forming
home videogame to come along in a
lo-o-o-o-ong time. The game's delight-
fully varied play me-
chanics, wacky graph-
ics and amusing audio
all blend to make
Megamania a four
star delight.

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snoozing space
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Manufactured under license from Bally Mfg. Corp.
pilot must face is the horde of horrible hamburgers. These targets scroll horizontally across the top of the screen and, like all attackers, drop bombs that will "derezz" the gamer's cannon. There's also an energy bar running across the bottom of the screen that shrinks constantly as time passes and shots are expended. If the energy runs out before a wave is destroyed, the cannon is lost.

Next up are the Swiss cheeses, which descend vertically toward the cannon while swinging from side to side in a random manner. These will invariably prove to be the most challenging targets. When a cheese reaches the bottom of the playfield, it must be avoided—contact destroys the cannon. Allow them to scroll off the bottom of the screen and reappear at the top of the screen.

The program goes back to horizontally rolling targets in the third round, when the fearsome french fries strut on screen. Then come the crisscrossing, descending radial tires and the spinning, horizontally-scrolling, vertically rolling "Dice of Doom". Three vertical columns of iron are next. These move from side to side as they head down screen. The player must eliminate at least one iron from each column before they reach the bottom of the screen, or the cannon is as good as gone.

The wave-like, sideways rolling bow ties come spinning across the screen next, dipping low on occasion to drop some close-up bombs. The final challenge in the first rack is the perilous popcorn from outer space. Giant, asteroid-sized kernels of popcorn that would do Orville Redenbacker proud come flying down screen as the cannon must alternately avoid and obliterate the butter-covered missiles.

Ten thousand points earns a new ship. Each time the original eight menaces are battled back, a new batch is sent out. Each round of attackers moves more quickly and erratically than the one before. Even top-notch players will find the challenge of the spinning radial tires a trifile heavy by rack four. And at the higher levels, the popcorn rains down like hail in a stiff wind.

This is an example of Activision at its whimsical best, employing delightful graphics, a nut-case concept and unbeatably compulsive play value. Not to be missed.

**DEFENDER**

*Atari/Atari VCS*

Sound the trumpets! Beat the drums! It's time for VCS owners to dance in the streets, because Atari has just published its best videogame cartridge since *Missile Command!*

For some time, a segment of the gaming community has charged that Atari's own VCS software is slipping. They looked at Atari's recent releases like the tremendously disappointing *Pac-Man* and the mediocre *Yars' Revenge,* then compared these cartridges against the best offerings from independent software companies like Activision and Imagic, and came to the conclusion that the Sunnyvale videogame giant was on the ropes.

*Defender* proves that you can never dismiss a champion until he's down for the full count. *Defender,* however, is so good that even coin-op hotshots will be intrigued. This is, of course, the VCS edition of the Williams' arcade hit, and the inside front cover of the instructions for the Atari version lists all the alterations from the original.
Buy Fast Food. You'll get a 'dimp' out of it.
Test the skill of even the most advanced video game hot dogs. Thanks to being a bundle of laughs, Fast Food is one very good game. But when you see a purple pickle, don't eat it. gobble up pizzas, munch French Fries, chomp down hot dogs.

The main thread of eating little white dots and variety to your video game takes the screen. And besides the game, Video Arcade...

Electronics Games, Inc. 4334 Bryant Street, Fremont, CA 94539

The Defender's Bitter Blues...
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Playing electronic games is now America's fastest-growing hobby. Here are some facts:

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★ Sales of computer games are expected to exceed 1 million units by the end of the year.

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DEFENDER. Continued

bombs. Players can also escape into hyperspace by moving to the top of the playfield, above the scanner, and hitting the fire button. This will instantaneously transfer the ship to another segment.

**Defender** makes magnificent use of sound effects. An entire range of them is used to signify such play elements as bonus ships being earned (no more than three can be accumulated at a time) and the capture of a human. If the aliens manage to kidnap a human, they turn the poor devil into a mutant, which means more aliens to worry about!

For the first four waves, five humans must be saved. Once this quintet is either mutated or dropped to their dooms, a "mutant takeover" begins. The city blows up and the Defender, cast into space, must battle the oncoming swarms of mutants. If the player's craft destroys them, the fifth wave resumes on Earth. With the coming of the fifth wave, the takeover syndrome stops for a round. Every fifth wave, mutants are restored to human form and destroyed cities are rebuilt. All of this activity attracts even more aliens, and the battle begins again.

This is an absolutely magnificent home simulation of a sophisticated coin-op. It comes packed with highly informative documentation and an awful DC-produced comic book featuring a cliche' supercrew dubbed "The Atari Force". Created by people who are talented comic book writers and artists (such as Roy Thomas and Ross Andru), it demonstrates no feel for the videogame concept whatsoever. Instead, there is the usual human stew of "hot-tempered", thick-brogued Irish lass; blonde, blue-eyed leader (male, of course); black; oriental; etc.—all stereotypes with personalities of cardboard.

Atari threatens more comics, but—at least the game is great.

**PICK-AXE PETE**

**N.A.P./Odyssey²**

**Pick-Axe Pete** combines elements of several of today's hottest coin-ops while managing to be totally unique and absolutely captivating—even to players who don't dote on typical "climb and jump" games.

The graphics are sparse but effective. Players direct the grizzled old miner, Pete, on a multi-level journey through a deadly series of shafts. To start the action, Pete must scale the playfield via the ladders which appear and disappear with regularity. The screen consists mostly of platforms on the left and right sides, divided by a series of blocks. The left side of the screen

seems to be the better choice, for some reason, so head left as soon as possible.

Aside from the fade-in/fade-out ladders, a pick-axe turns up at random moments on the playfield. By grabbing it, Pete can chop up those rolling boulders that roam the various mine shaft levels. Without his axe, however, Pete must either dodge or leap-frog any oncoming rocks. Some of the boulders contain gold, good for points. Also, when two boulders smack into one another, they often create a pick-axe for quick mining action.

To get to the deeper levels of the mine, however, Pete must make his way to the uppermost layer of the on-screen shaft and wait for the magic key to appear. Grabbing this key sends Pete on a wild graphic trip into the lower, richer mine sections.

**Pick-Axe Pete** is not a simple game, but once players get the knack, they'll find themselves involved in a truly enjoyable videogame experience.

**STAR STRIKE**

**Mattel/Intellivision**

What science fiction fan will ever forget the final scene in "Star Wars"? Luke Skywalker and the rest of the
rebel pilots are roaring down the trench of the Deathstar in their starfighters. They must fight past the anti-aircraft batteries ahead of them while a merciless Imperial fighter squadron swoops down on them from behind. They reach—and successfully bomb—a target in the floor of the trench just in time to prevent the Deathstar's doomsday weapon from incinerating a whole planet.

It made for a pulse-pounding movie, and in the hands of Mattel's design staff, it serves as the basis (with some re-working) for one of the year's most exciting science fiction videogames. Leaving aside quibbles concerning having to use the direction disk for rapid aerial maneuvers, this is a slick, fun-to-play contest that should gladden the hearts of Intellivisionaries who are always clamoring for more solitaire action-oriented cartridges for their favorite home arcade system.

Not that *Star Strike* doesn't demand sound strategic thinking. A ship must get behind a target, indicated on the screen by having it change color from dark to light blue, in order to fire at it. The pairs of computer-controlled fighters defending the trench approach your ship from behind, so gamer/pilots will have to do some fancy flying just to get a clean shot at one of the antagonists. This is the play feature that most clearly separates this game from the usual straightforward space shoot-out. Having the trench-defenders make simple frontal attacks would have robbed *Star Strike* of much of its interest.

Actually, the enemy saucers are more of a diversion than an actual threat once the player gets the hang of steering and shooting. They are attempting to lure your spacecraft away from the center of the trench, the position it must hold to successfully complete its bombing mission against the five red targets on the trench floor, which scroll down the screen and off.
the playfield one at a time. Hitting these objectives is the essence of the game. Failure to do so gives the trench a chance to properly aim its super-gun at the Earth. Once that happens, the program unleashes its most impressive special effect, the demolition of an entire world in a single explosion. It’s so impressive, you’ll probably want to let the computer win a couple of games just to have the opportunity to observe the Earth’s fiery finale.

Before the contest begins, the gamer may select from among six levels of play. Mostly, it’s a matter of how fast events occur on the screen, although level six changes the ground rules somewhat. At this supreme difficulty setting, missing even one of the red targets ends the game immediately.

No matter which level is selected, the human pilot has the option of speeding up or slowing down his ship’s flight speed. Three different warp settings are available, and it is possible to change velocity at any point during the action. Pushing either of the top action buttons fires the fighter’s laser, while pressing either of the lower action buttons drops a bomb.

THE COMPLETE CAST OF MIDWAYS TRON

**Game Design**
- John Pasierb - VP Engineering
- Bill Adams - Software
- George Gomez - Mechanicals/Art
- Atish Ghosh - Electronics/Hardware

**Hardware Design**
- Pasierb and Ghosh

**Software**
- Bill Adams, John Marcus and Tom Leon

**Video Art/Storyboards**
- George Gomez, Sharon Barr and Marsh Jordan

**Controls and Cabinet Design**
- George Gomez with Production Engineering by A. Ryan and Direct Mechanical Engineering of controls with Godlenski Cabinet

**Software Support**
- Jim Love and Jeff Nauman

**Team Project Management**
- Bill Adams and George Gomez

**Cabinet Art**
- Richard Taylor (Ill/Walt Disney)
- Paul Faris and Staff - Art Direction
- R. Scafidi - Art Coordinator
- George Gomez

**Sound Effects/Audio**
- Earl Vickers

TRON Continued from page 22

Dealing with this highly dramatic moment in videogame terms proved a tough nut to crack, but Midway did themselves proud with their execution of a spinning cylinder, each stave colored differently, like a futuristic pickle barrel. The gamer must use his Tron surrogate to blast away at portions of the spinning cylinder. Of course, just as a side is cleared, the spinning brings the gamer face-to-face with destroyed sections of the cylinder.

The most difficult overall assignment for the great game team, however, lay in the area of continuity. All the games had to have the same basic background and even use the same basic controllers. Gomez, Pasierb, Adams, Ghosh and cohorts decided on a grip-style joystick that would be lit from below to give it a fantastic bluish glow and a top-mounted action button. To aim Tron’s weapons, a dial was positioned on the left side of the control console and is used in all but the Light-Cycles scenario, where players simply steer the cycle and hit the button to give ‘er some speed.

Solving the backdrop problem was a cinch. The team decided to have the game play on the deadly Grid itself,
In view of complaints about Intellivision's slow on-screen movement speed, Star Strike moves much faster than many would expect. The level one game is so slow that it is really only good as a learning tool, but events happen at a satisfyingly rapid rate once you're competing at the higher difficulty settings.

Star Strike is easily the best Intellivision space game since Space Battle.

overlaying the various segments onto that matrix.

There were problems, setbacks—Disney couldn't decide whether the good guys or the bad guys would be blue, for example—and mucho blood, sweat and tears, but the infant Midway Research & Development group eventually showed their final product—ahead of deadline—and were declared the winners.

The game is certainly strong enough to do well, with or without the film's success, just as many sound track lp's are smash hits while the films they score die at the box office. Still, early reports indicate that Disney is interested and encouraged enough that it's now working on Tron II. They're even toying with the idea of a third sequel. Should the film explode at the box office, the first great team-created coin-op will have an even stronger shot at super-hit status. But hit or miss with the film, Tron, the coin-op is a classic.

MCP segment from Tron coin-op

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The Gamers Guide To MICROCOMPUTERS
WHAT'S A COMPUTER?

Anyone who has ever plugged a videogame cartridge into the slot of a console will feel on familiar ground with any of the popular microcomputers. Both use essentially the same technology, though the true computers are a bit more sophisticated in the way they operate.

One analogy is that while a videogame machine is a special purpose tool, the microcomputer is capable of performing a great number of different tasks. The keyboard of a computer, used in tandem with one or another of the special program languages, makes it possible for the operator to modify programs in a way that it is impossible to accomplish with an ordinary videogame system.

TO PROGRAM OR NOT TO PROGRAM

One of the most popular misconceptions about computers, one which has seriously slowed the spread of such machines, is that the would-be operator needs all sorts of specialized knowledge. Nothing could be further from the truth. In all reality, you barely need to know a boot from a byte in order to have hour after hour of gaming fun with a personal computer. A little knowledge can only increase your enjoyment of this phase of the hobby, but if you can operate a videogame machine and an electric typewriter, home computers ought to hold few terrors.

Some folks who might otherwise be interested in exploring the world of microcomputer gaming are particularly worried about having to learn to program. While BASIC is actually a lot easier to
pick up than, say, French, it’s more of a luxury than a necessity. Most games require you to do nothing more complicated than put a tape on a recorder or a disk in the slot of a drive. Obviously, knowing how to program (and in Assembly language at that) is a requirement for those who’d like to design games, although skill with the joystick remains the main requirement for those who only want to play.

GLOSSARY

**Auxiliary Storage:** Devices used for saving programs when the system itself is turned off. Since RAM loses its contents when the machine is powered down and ROM can only be programmed by the factory, auxiliary storage keeps programs between operating sessions. It can’t be used instead of RAM or ROM, however, since it doesn’t operate as fast as the CPU.

**CPU:** Central Processing Unit. This is the microprocessor—or electronic brain, if you will—that lies at the heart of every computer.

**Disk Drive:** An auxiliary storage device that works like a cross between a phonograph and a cassette recorder. By using plastic disks coated with a magnetic surface, such drives are faster and more reliable than cassette storage.

**Interface:** The part of the computer that permits the attachment of peripheral devices. These include cassette recorders, joysticks and a connection for a TV set or monitor.

**Modem:** Modulator-demodulator. It is a piece of equipment that allows computers to communicate with each other over telephone lines.

**Interpreter:** This translates programs from human-readable form into a series of codes the computer can understand. This makes using a computer a lot simpler for first-time programmers.

**RAM:** Random Access Memory. This is the internal memory the computer actually uses when running a program. It can be revised or read an infinite number of times.

**ROM:** Read Only Memory. This type of memory is also internal to the system, but it cannot be altered by the computer operator. Its contents are fixed at the factory and can’t be changed. Most computer games bought in ready-to-play form fall into this category.

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THE

VIC-20:

BONANZA ON A BUDGET

**THE SYSTEM**

The Commodore VIC-20 is not just a microcomputer priced well under $300—how far under depends upon the retail outlet in question—it is a well-made and highly versatile microcomputer priced well under $300. The same manufacturer’s PET, though tremendously popular in Europe, failed to make a comparable
The high resolution graphics of Poker (see right) produce a beautiful electronic deck of playing cards.

Despite the monochrome graphics, Omega Race (see below) is a top-notch computer game program.

Jupiter Lander (shown above) boasts two separate display screens and colorful graphics.

The VIC-20's Slot Machine cartridge (see left) carries its simulation so far that it actually has a coin slot.

THE ATARI

THE 400 SYSTEM

The Atari 400 is a microcomputer that was designed with game-players firmly in mind. Using a 6502 microprocessor combined with 128-color capability and four, independent sound synthesizers, gaming comes quite naturally to this budget-priced home computer.

Those independent sound generators make the 400 capable of true, four-part harmonics that give the audio a coin-op quality sound. In addition, all sounds are driven through the television or monitor's own speaker.

Graphically, the revolutionary player-missile capability liberates the 400 for greater and more consistent on-screen action and movement. The 400 has a touch-actuated keyboard, 10K ROM, 16K RAM and reads BASIC, Pilot and Assembly languages.

The Atari 400 accepts programs in any of three formats: cassette, disc and cartridge. The cassette player (model #410) is a specially-modified audio tape recorder that loads directly into the computer, as does the much faster-loading 810 disc-drive. Both peripherals can be "daisy-chained" for easy transfer of programs from tape to disc.

The final program format is the cartridge, similar to the type used in programmable videogames. The 400 has a top-opening slot to receive all such cartridges. This is labeled as the "left" slot, as opposed to the 800, which boasts a pair of cartridge slots (although no
enough to produce satisfying visuals.

One of the greatest strengths of this system is that it has a full typewriter keyboard. This feature is unmatched by any machine in the same price range. How important this is will, of course, depend on how you intend to use your computer. The keyboard will be especially appreciated by those who want to delve further into all the intricacies of the CPUUniverse by learning programming, and it may also prove a blessing to those gamers who dote on adventures or war games, both of which genres often require extensive use of the keyboard to convey player input.

Hard-core home arcaders, on the other hand, may feel the fact that the VIC-20 has only one joystick port is a balancing negative factor. It means that joystick contests must be played solitaire. (It should be noted that most computer games are solo affairs at the present time.) One good thing: the port is compatible with both the Atari VCS and the Atari 400/800 ports, so players can use any of the gourmet sticks now available for these systems on their VIC-20, too.

PERIPHERALS

Commodore has kept its promise to strongly support the VIC-20 with associated hardware. The add-on enhancements which it has made available to owners thus far share two major characteristics: low price and high quality. Everything the company sells for use with the VIC-20 seems to be well-constructed and perform as advertised. (Those familiar with the computer field know this is not a small compliment.) Expansion cartridges—not boards—will eventually allow owners to increase their VIC-20's memory to 32K of RAM. So far, the only one on the market takes the machine to a total of 12K of resident RAM. This can come in quite handy when you wish to utilize the PET graphics drawing system which is built into the VIC to invent your own games or just copy the listed programs developed by others.

The VIC tape recorder, powered directly from the console itself, may well be the best of its type in the microcomputer field. It searches for a selected program, lets you know when it's found, loads it, and then gives notification that it's ready to play or list. And after a program is loaded, the tape stops and automatically cues up for the next operation.

VIC-20 SOFTWARE

Software for this system is only now beginning to see the light of day. This situation is well on its way to correcting itself, however, and some pretty good games are already available from Commodore.

Omega Race (Commodore): This translation of the coin-op space shoot is, in the minds of many, the best game currently available for the VIC-20. It's not in full color, but that's only a minor annoyance.

Jupiter Lander (Commodore): This is a pretty slick lander game with some interesting variations. The best point is that it provides a close-up of the landing site.

Radar Rat Race (Commodore): This scrolling maze chase sends the player scurrying along corridors on a mission to grab all the available cheese.

Computers: Two Compatible Systems

USE HAS EVER BEEN MADE OF THAT SECOND SLOT.

The right side of the keyboard console contains a reset, option, select and start button, in addition to a light indicating whether or not the power is on. The front of the computer has four joystick (or eight paddle controller) inputs and uses the same controllers as the programmable VCS system.

The 800 Computer System

Despite its current price tag of well under $1,000 for the 48K configuration, the 800 ranks as one of the classiest of the personal computers. The neat-as-a-pin internal design offers maximum user friendliness, since memory boards, language and even the operating system are packaged as self-contained plug-ins. The idea is to keep the 800 as flexible as possible so that Atari hardware designerers can take advantage of technological advances to keep the 800 up to state-of-the-art for as many years as possible.

The Atari keyboard is exceptionally easy to use. Some game programmers express a preference for the Apple II keyboard over this one, but it really appears to be a simple matter of individual choice. Besides the regulation keys, there is a row of four additional ones immediately to the right of the main board. These are the game function keys, and they make the 800 a home arcade that is as simple to operate as the typical programmable videogame system.
Sound and color may be the finest in the personal computer field. Resolution is on the order of 64,000 pixels, the machine is capable of four-part harmony, and graphics are painted in a veritable rainbow of 12 colors. A full display screen is 40 characters x 24 lines, the same as for the Apple II.

Sure to appeal to computer gamers is the fact that the Atari 800 has four controller ports arrayed horizontally across the machine’s front (for easy access) directly beneath the keyboard. That means you can connect up to four joysticks—that’s eight paddles—at the same time.

True, there isn’t a lot of call for such a set-up, but it’s awfully nice to have in case your friends want to try a four-player game of Basketball (Atari) or Ali Baba (Quality Software).

One unusual feature of the 800 is that it has two cartridge slots instead of the expected one. Everything now available plugs into the left-hand niche. Someday, someone may actually make use of the do the job nicely. Some 400 owners may wish to leave such internal changes in the skilled hands of a computer technician, but the job is not so hard that an intelligent

Some computerists have complained that the Atari disk drive isn’t heavy duty enough for business applications, but it is certainly able to get the games on the screen in a reasonable period of time when serving as a home arcade. Percom has just introduced its very own Atari-compatible disk drive for those who really can’t reconcile themselves to the Atari-made one.

Those who aren’t satisfied with standard Atari joysticks have a wide range of possible alternatives from which to choose. There are super sticks from WICO, button controllers by B.C. Systems and Starplex, and many, many more different controller configurations. Any command device that works on an Atari VCS—and there are a lot of them—will function just as well with an Atari 400 or 800.

Although the selection of peripherals for the Atari doesn’t even approach the number and variety of gadgets for the Apple, most of the essentials are in the stores. If you need a modem to join a network or a printer to keep a record of your performance in Deadline, you won’t have any problem.

**PERIPHERALS AND ACCESSORIES**

Both the 400 and 800 computers begin life with a 16K memory. It’s a cinch to upgrade the 800, because the expansion modules just plug into clearly marked slots in the machine. Atari didn’t design the 400 with the same easy expandability in mind, but boards marketed by such firms as Axlon, Mosaic and Intec will gamer who can wield a solder gun can’t get done.

One of the most important additions to any Atari computer is a BASIC cartridge. Some games are still being programmed in BASIC—or in BASIC with Assembly language subroutines—and you’ll need this cartridge to play them. Actually there are several different versions available, both from Atari and independent sources, but which one you pick doesn’t make much of a difference until you get into actual programming.

**ATARI 400/800 SOFTWARE**

Atari doesn’t flood the market with games for its computers, but the company’s re-
leases are generally of unimpeachable quality. All Atari games are produced on ROM cartridge, though the manufacturer also distributes games on tape and disk invented by amateur designers through its Atari Program Exchange (APX). At least one program, Caverns of Mars, started out with APX but later moved into the regular line.

Some of the many fine Atari 400/800-compatible games include:

**Missile Command (Atari):** This is a beautiful version of the coin-op in which the player must defend his cities against a rocket attack from space.

**Star Raiders (Atari):** This space piloting contest revolutionized computer games when it was published a couple of years ago.

**Jawbreaker (On-Line Systems):** This may well be the best maze chase program ever created for a computer. The sounds and graphics are just wonderful.

**Megalegs (Megasoft):** Many gamers feel this independently produced game is even better at providing Centipede-like action than the ROM cartridge of that name released by Atari.

**Basketball (Atari):** This is one of the few sports games currently available for the Atari computer systems. Thankfully, it's an excellent hoop cartridge for up to four players.

**THE SYSTEM**

The venerable Apple II has lost technological leadership to newer machines like the Atari 800 and IBM Personal Computer, but no microcomputer is dearer to the hearts of gamers at the present time. The Apple II was the first mass market personal computer in this country, and that has had both good effects and bad. Innovations like Atari's player-missile graphics and through-the-TV-set sound generation may make Apple II owners a mite jealous, but on the other hand, no system has a larger software library than the Apple II. It's relative longevity has given third

**ASTEROIDS**

**BUG ATTACK**

By James L. Nitchals
party software vendors enough time to do their stuff, overcoming Apple's corporate disinterest in doing anything much to please the dedicated computer gamer.

The keyboard closely resembles the familiar typewriters, with the addition of several extra keys for things like "system reset." An easily accomplished modification permits the operator to switch between upper and lower case characters in much the same fashion as an IBM Selectric or other typewriters.

One of two possible BASIC languages is resident in the machine and is ready whenever the power switch is "on." The other Integer BASIC has largely been supplanted in the gaming world by the Applesoft BASIC. All machines now sold under the "Apple II Plus" designation have Applesoft BASIC resident.

Game-playing obviously didn't get top priority when this system was designed, or else the single joystick port wouldn't be in such an inaccessible place. You'll have to lift off the top of the machine every time you want to plug or unplug a game controller. The flimsy 20-pin connectors on the paddles and joystick don't exactly promise long service life, either. The best solution is to spend a few dollars extra and buy one of the external joystick ports. These attach to the side of the machine and permit hassle-free connections.

PERIPHERALS AND ACCESSORIES

Just about anything the acquisitive computerist might want for his or her system is available to the Apple II owner. You can select from a wide range of disk drives, including two-sided and double density models, as well as all the printers, modems, language cards and such that anyone could desire.

The invitingly large Apple II audience has inspired independent producers of hardware as well as software to put forth their very best efforts. Since there may be more than a dozen brands in some categories of peripherals, even the budget-conscious computer gamer should be able to make out pretty well.

Most games for the Apple II are sold on disk, though tape is still obtainable from manufacturers like Avalon-Hill and

THE RADIO SHACK COLOR COMPUTER

The TRS-80 Color Computer has a host of plusses going for it, including good sound and high resolution graphics, but it has never quite jelled as a complete system. Tandy introduced its first color microcomputer with high hopes, but the competition of more enticing machines like the Atari 400 and the Commodore VIC-20 has prevented the Color Computer from making much headway in the under-$400 segment of the market.

The damning flaw is that Radio Shack has not produced nearly enough gaming software, and what there is won't win many prizes. Dino War is the best of the Tandy-produced programs on cassette, and it is not very exciting to say the least.

Another problem with the Color Computer, at least from a home arcade standpoint is that the control devices made for the system are bad. Response is very poor on some games, making them very dif-
Scott Adams which like to cover all the bases. The Apple-manufactured disk drive, which uses the current standard 3.3 disk operating system, runs through the computer without need of an additional power source. It is very reliable.

The "regulation" Apple II comes with 16K of memory. This can be increased to 48K for gaming purposes, though it is possible to shoehorn in another 16K by installing an extra language card for Pascal or the like.

APPLE II SOFTWARE

It would be impossible to mention more than a small fraction of the hundreds of interesting games available for the Apple II computer system. Here are a few of the EG staff's current favorites:

**Castle Wolfenstein** (Muse): This semi-role-playing game casts the gamer in the part of an Allied P.O.W. during World War II who must escape from a fortified German stronghold with secret war plans.

**Star Blazer** (Broderbund): A beautifully designed scrolling shoot-out gives the arcade player several mini-missions to complete before ultimate victory is achieved.

**Night Mission** (SubLogic): Even if you aren't a real fan of pinball, there's a good chance you'll enjoy this clever electronic simulation. There are many user-modifiable aspects to the game that allow the player to customize the Night Mission table to fit his or her own tastes.

**Empire of the Over-Mind** (Avalon-Hill): This text adventure will keep several players working busily—and happily—to cast down the tyrant of two worlds.

**Computer Baseball** (Strategic Simulations): If you like the idea of managing electronic analogs to real baseball players, this statistical replay game should be on your shopping list.

**Cyborg** (Sentient Software): A text-like adventure for the experienced electronic hero, Cyborg offers an intriguing science fiction situation and lots of room for creative adventuring.

**Star Warrior** (Automated Simulations): This one combines the action-oriented arcade-style game with the adventure to produce a program that offers two exciting scenarios in which the gamer must function as cosmic avenger to free an enslaved planet.
At this juncture, it's still too early to make sweeping predictions about IBM's entry into the microcomputer sweepstakes. The system is so innovative, that independent hardware and software support is still developing. Several leading computer game publishers, including Automated Simulations, Sir-Tech and Avalon-Hill, intend to make games for the IBM, but it is too soon to know how many shelves entertainment programs will claim in the IBM PC software library.

The system itself is built around a 16-bit microprocessor, compared to the 8-bit CPU's found in machines like the Atari 400, Apple II and VIC-20. This should give the IBM much faster computational speed, which could come in mighty useful when a complicated adventure game is running on the machine.

Will the IBM Personal Computer become a major home system as well as a popular choice for small businesses? The next year should tell the tale.

This guide is only intended to serve as a painless introduction to the world of gaming possibilities waiting for arcaders in the personal computer field. Hopefully, you are now pointed toward one or two of the systems profiled here.

The next move, however, is very much up to you. Go out and get a firsthand view of the computers yourself. If possible, find a friend, computer club or retail store where you can actually sit down and try out the machine that has caught your eye. After all, this is an important purchase that must be given some careful thought.

And don't forget to look at the software library! A system is only as good as the programs available to run on it—that is, unless home programming counts heavily in your case. Just make sure the computer games and such you want are actually obtainable for your system.

Happy hunting!
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SPECIAL REPORT

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TV GAME CART

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VIDEO FURNITURE

STORE-N-FILE

IMAGIC GAME CASE

PYRAMID

ORGANIZER

CASSETTE 'N GAME

ORGANIZER
Once upon a time — and it really wasn’t all that long ago — the typical electronic gamer was happy if he or she had a good piece of hardware and a bunch of cartridges to use with it. But once you’ve got the basics, it’s only natural to begin dreaming about all the little frills that can do so much to increase players’ enjoyment.

Gamers, like most people who collect things, eventually need something in which to store them. And wouldn’t it be nice to have a gourmet-quality joystick? Or how about cables to connect your videogame console to your stereo system for room-filled arcade sound? The list of possibilities is endless.

Necessity is the mother of invention. Manufacturers who’ve watched electronic gaming become a national pastime have started to cater to the so-called “aftermarket” by turning some of gamers’ “if onlys” into reality.

The following pages highlight gaming accessories which the staff of Electronic Games believe are especially worthy of the notice of gamers. Not all of them are perfect, but every one is at least interesting and intriguing.

**VIDEOGAME FURNITURE**

Nowhere is there more activity than among the manufacturers offering various forms of videogame carts, housings and storage devices. Let’s take a look at some of the newest.

**BUSH INDUSTRIES** offers two models of T.V. Game Carts. Both are constructed of vinyl laminated material and are shown configured for the Atari VCS. The lower-priced ($34.95) G800 stores the VCS (or any other game console), two Atari joysticks and up to 23 game cartridges on its upper shelves. The lower shelf should hold an additional 20 or so games in their cartons, or whatever other accessories you might have such as perhaps another game system?

The deluxe G900 provides an additional shelf for paddle controllers and removable side panels for increased game storage. Both units feature casters for ease of mobility.

**O’SULLIVAN INDUSTRIES** has developed an ingenious, patent pending, two-piece design that holds the videogame system and the TV as well. One piece holds most 19-in. TVs and remains stationary. The other, a roll-out unit, stores the game system and features a drawer to house game cartridges. The VG110 system, priced at $99.95, looks like a winner for use where appearance really counts.

**PYRAMID MANUFACTURING** is offering two lovely game centers, one specifically for Atari, the other for Intellivision Odyssey², Commodore VIC-20, etc. The VG-101 has recesses on its top shelf to hold the VCS and two Atari joysticks. The VG-102 has a flat top to accommodate videogame consoles from any other manufacturer. Both game carts feature two shelves for storing game carts, cord-wrap knobs to eliminate unsightly excess controller wires and a roomy lower shelf suitable for additional games or a second system. Both models retail for $79.95.

**GUSDORF CORPORATION**, the industry giant, is currently manufacturing two game cabinets, one specifically designed for systems that utilize 13-in. and smaller color TVs, the other for models up to 19 in. The smaller model 1290 lists at $52.00 and can store a videogame console, several sets of controllers and game cartridges. The larger model 4715, priced at $83.00, holds the same complement of gaming equipment — only more of it. Both of these attractive units feature casters for easy mobility and rear access panels that allow for invisible system connection to be made.

Now if all these handsome and practical units don’t do it for you, and if you’re the adventuresome type, an all-wood, Atari-configured game cart is available from a
company headquartered in Taiwan. It lacks, at least for the moment, U.S. distribution and representation, so the only way to order the product is direct from the factory. Although prices run around $25.00 for this deluxe game cart, freight and expediting fees may add heavily to the cost. Nevertheless, if it's wood you want, EG wouldn't leave you up a tree.

**KENSONIC INDUSTRIAL INCORPORATED** a division of MOTTO INDUSTRIAL is the name of the manufacturer. They may be reached at P.O. Box 47-210, Taipei, Taiwan, R.O.C. or telexed at 27419 KENSONIC or cabled at "MOTTO" shihlin. Or if you really want to splurge, you can phone at 8325265 or 8327246. If you do call, remember that it will be approximately 12 hours later than Eastern Standard Time. Also their English isn't all that good. The model pictured is the HI-666GS, which features a hinged plastic dust cover, storage room for 24 game cartridges and of course the VCS and joysticks and paddles. Casters are also included. It's just too bad that nobody is importing the unit as we go to press.

Based a bit closer to home, **RECREATIONAL PRODUCTS MANUFACTURING INC.** offers a line of high quality moderately priced game accessories worth investigating. Its model 614 Total Concept Video Center houses a 19-in. TV behind a roll-up door. In addition, the unit contains two drawers which can be used to store game consoles, controllers and of course games. Casters, a wood grain vinyl finish and security lock round out the package. All this can be yours for only $129.95. If that's too rich for your blood, Recreational also offers a less expensive alternative in its EH588 Video Game Center. This tabletop unit stores a videogame console, controllers and up to 23 cartridges. A fitted dust cover tall enough to house an Intellivision with an accessory joystick completes the package. The unit retails for $39.95. If it's only cartridges you want to store, two models of game cabinets are available. The EH 574 and the EH 589 are priced at $26.95 and $44.95 respectively. Both units may be wall mounted or left on a table or shelf. Theancer of the two has a roll-top front and security lock.

**HARTZELL CUSTOM PRODUCTS** produces a less expensive (albeit less capacious) game storage case, the VGC-8, for only $9.95. This unit holds eight games and associated instruction booklets. Hartzell also has a nifty system Organizer, the GSS-214V, at $19.95. It holds a VCS, two joysticks and paddles and 14 game carts. It looks like a real winner for the price.

**IMAGIC's** Video Storage Center holds an Atari VCS or Intellivision. For the former, it will also accommodate a pair of joysticks, paddles and 15 game carts. For the latter, it can contain up to 18 game carts and overlays. This handsome unit is moderately priced at $34.95.

**INNOVATIVE CONCEPTS** lives up to its name with the all-wood Stor-N-File. This table-top storage system houses a game console in its lower compartment and controllers behind two wood doors. It also has room for Innovative Concepts Cassette'n Game file which holds 18 game cartridges in a covered smoked-glass storage device.
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presents a strong case if you can handle all that!

Lastly, before ending our coverage of coverages, **CLASSIC COVERS** offers a fine line of low-priced, fitted, protection devices for a number of videogame systems and home computers. Its AT-44 for the Atari VCS, MT-33 for Intellivision, OD-22 for (you guessed it) Odyssey², AT-400 for the Atari 400, AT-800 for (what else?) the Atari 800 and MT-800 for the Intellivision Keyboard unit all are made of colorful canvas and feature each company's official logo. In addition Classic Covers offers a complete line for Commodore computers from the VIC-20 to the Super PET and 8032. Except for the latter two covers, all are priced at under $10.00. Logod backpacks and tote bags are also available for under $12.00. Judging from their quality, this line is quite a bargain especially for American made products.

**AND TO KEEP YOU FROM LOSING CONTROL**

If you're prone to breaking your Atari joysticks due to unusually frenzied play, 

**ROETIN INDUSTRIES** has the answer. At $7.95 (shipping included) the company will send you a pair of inserts that could have you back in-action in under five minutes. Called Fix-A-Stick, these molded inserts may not increase your score, but they will enable you to keep the action going. It is cheaper to repair a controller than to buy or despair.

But suppose your Atari joysticks and paddles work just fine. Well, the Pro Console I from the **DIRECT MARKETING GROUP** can certainly enhance their appearance, provide a neat storage area for cables, and with its weighted, more stable base, may just improve your score. These nifty, and attractive units are sold for $24.95 per pair.

While you Atarians are rejoicing, Intellivision fans can also take heart. They haven't been left out of the fun. Among a number of joystick additions tested recently, one, the Injoy-A-Stick, stands out from the crowd. These joysticks are molded from the same color and type of plastic as the factory Intellivision console. To install these joysticks, which replace the original control disks, simply unscrew four screws, pop out the disk, insert an Injoy-A-stick and screw the controller back together. In a matter of a few minutes you're set to go. The exact retail price was not available at press time, but we'd guess they will sell for $5.00 to $10.00 for the pair. It may seem like a lot for a little, but it's a whole lot cheaper than having your sore thumbs realigned by a chiropractor every week or two.

Of course, the big news in controllers is the Command Control series from **WICO**. EG has already covered the basic model in "Test Lab", and so check page 96 for further details. Since then, the much awaited Trackball has arrived. It proves again that WICO makes the best controllers ever developed for the home market. Nevertheless, because of their greater size and heft (compared to the standard Atari) a WICO stick may take some getting used to. After that they're heaven in your hands.

Continued on page 64
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OTHER GOODIES

Another dynamite product for you lucky VCS owners, and one that is also featured in "Test Lab" is Arcadia's Supercharger. (See page 96 for further details). It's so revolutionary it's a wonder that Atari didn't think of it first! If you buy nothing else for an Atari fan, this is the gift of choice although the WICO joystick isn't very far behind.

A few issues back, EG ran a feature on going king-size with projection television.

A product we admittedly overlooked allowed you to actually convert a TV into a giant screen without any modifications whatsoever. It isn't even terribly expensive either.

INTERNATIONAL MARKETING SERVICES has been selling a product called Beamscope for the past several years. Beamscopes are large, flat magnifying lenses that fit in front of the TV's picture tube and thereby bring the picture instantly into the big league. A 19-in. picture grows to 30 inches, and a 25 or 26-in. console swells to a giant 41 in.

Beamscopes aren't for everybody. They require viewing the TV head-on, create some reflections of their own and occasionally get in the way. But boy, do they deliver! (A complete Test Lab of the Beamscopes is forthcoming shortly.) At a cost of $59.95, the TS-25 enlarges the picture of any 10 in.-15 in. color TV. The more popular TS-30 handles sets ranging from 17 in. to 21 in. and sells for $69.95. The giant of the line, the console model TS-41 sells for $219.00 and provides a 41-in. picture. Special swivel bases and custom frames are available for some models. For a device that blows up pictures without sacrificing brightness and sharpness, or that requires dimming the lights, check this item out. We should warn you that it takes time to get used to the Beamscope's picture so do not make a hasty judgment.

And while we're looking into things, L&W ENTERPRISES markets a product called Bend-A-Light that makes peering into your equipment much easier. This is basically a flexible lighting tool that comes with a mirror and a magnet. If you're into some of the construction projects featured in EG, you may occasionally lose a screw or small part in the back of a TV or game on which you're working. This is the ideal way to get it back. At $39.95, it isn't cheap but it comes with an additional penlight in a fitted vinyl case.

Last on our list of gaming accessories is something for you Astrocade owners. Actually we are talking about a publication that is mandatory if you really want to get the most from your Astrocade. It's the "Bally/Astro Professional Arcade Software and Hardware Sourcebook."

It lists just about every piece of software available for the system. Also all major hardware suppliers are well represented. Interesting background information rounds out the publication, which is issued twice a year. At a cost of $7.00, including shipping, this is the ultimate bargain for the Astrocade fan. Our hats are off to Richard M. Houser, its publisher, for the superb job he is doing. To order, send $7.00 to RMH Enterprises, 635 Los Alamos Avenue, Livermore, California 94550 or call him at (415) 449-8493.

So fellow gamers, there you have it, EG's first hard look at the growing accessories market. Only one small word of caution is due: Before you run to the phone to order any of the videogame furniture you've seen, please be sure you have the room for it. Some of these carts are surprisingly large and you can't very well organize a system that's stored outside your front door.
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Gravitar. The player's game.
TRON
Midway

Tron is a revolutionary game in much the same way that the motion picture is a revolutionary film. The cabinet is a sleekly designed casing complete with a hologram image of the I/O Tower and computer generated special effects photos on the sides. The luminescent joystick is a pleasure to manipulate and the rotary aiming dial spins freely yet has enough

With this installment of "Insert Coin Here", we're revamping the entire structure of the column. As our readers grow more and more sophisticated, it becomes necessary to go into greater detail in our game descriptions. A coin-op is no longer simply what the player sees on the screen. Other elements, such as the cabinet, the controls, and the instructions are all vital elements that contribute to a game's quality.

Each reviewed game from now on will feature a schematic diagram of the control panel — complete with identification of each button and lever — as well as a "How To Play" section, all in addition to our usual review and commentary on everything from audio/visuals to game play.

If you have any further suggestions along these lines, please write and let us know. We only want to please you. That's our job — and it's one only you can help us do better.

A Look at Tron and Pepper II

By BILL KUNKEL

play to insure accurate and fast aiming. Most revolutionary, however, is the concept of a single coin-op using a quartet of totally different games in an overall adventure contest that accurately mirrors the pivotal sequences from the movie.

A personal favorite among the four games is the MCP contest. Like a futuristic three-dimensional version of Breakout, the player must blast through the revolving cylindrical column and into the Master Control Program itself. Bonus points are picked up by eliminating all the barrel-like staves (distinguished by their different colors) before ascending into the MCP. After level one, however, this becomes a perilous bit of business since Tron is always moving upward and traveling faster to the top at each level. At that point, just punch a hole in a patch of the column starting on the left side and hollow it out as it continues its rotation, then leap into the MCP instantly.

The trick here is to remember that the column is a fully rounded object, and those staves just shot away are soon behind the field of view and thus useless for purposes of escape.

The most challenging of the four scenarios is easily the Tank Maze. Even skilled maze-masters may meet their match here as each progressive level brings more and more robot tanks onto the scene — tanks capable of taking three shots to the player's tank's one. Players will quickly have to learn the strategy of constant movement and a mastery over angle-deflection shots. The tanks cannot be destroyed, obviously, in head-to-head encounters and must therefore be outmaneuvered, caught in a quick sequence of ricochet blasts. Gamers use the joystick to move the tank, the button to fire and the nob to rotate the cannon.

Light Cycles is another updating of a classic videogame theme — the line-building game in which the player who runs into a line — or the playfield border first is the loser. Here we have a pair of
Follow the BLUEPRINT, make machines run, save Daisy Damsel, the game is then won!

The exciting game where heroes are made, plans are mapped, damsels are saved, and villains are zapped!
light cyclists—their vehicles leave in their wake a solid and deadly wall—in a life and death struggle. Remember your Checkmate and Surround strategies—pre-empt as much of the playing grid as quickly as you can and wait for the opposition to run out of room.

From the second level on, things are enlivened considerably by the appearance of three enemy death-machines. Action fans will be knocked out by the I/O Tower contest. The robotic spiders leave spores when not destroyed and these eggs quickly hatch, adding greater numbers to the enemy forces. By the third level, Tron is looking at a virtual St. Patrick’s Day parade for grid bugs, and only the quickest of trigger fingers and the supplest of wrists will make their way into the I/O Tower before time elapses or the bugs getcha’.

The sound, graphics and play on all four games is extraordinary. Every arcader is guaranteed to love at least two of the four contests, and none of them are dull. This is the hottest new coin-op in town and every true arcader should seek out and play User in the world of Tron.
Exidy

Everyone agreed about Taito's innovative game Qix—it was great fun and highly original. Problem: the concept was too abstract to attract mass popularity.

Pepper II borrows some of the most interesting elements from that game while blending it nicely with a more traditional maze-chase game. This game makes the creation of blocks more clear-cut by placing border posts at the edges, allowing the gamer freedom in his room's dimensions but still providing signposts along the way.

The game's most frustrating element, however, doesn't come from the programmer's nasties—eyes and Whippersnappers—but from the gamer's own tendency to backtrack—erasing room enclosures instantly.

Hey Kids Of All Ages!

Video Game Club USA Announces its Xmas drawing for the membership. 2 Complete Coleco Home Units with Accessories will be given away Xmas Eve Dec. 24, 1982 at 9 PM Arizona time. Winners will be notified within 24 hours. All members joining the club before Dec. 24, 1982 will be eligible for the drawing.

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Electronic Games 69
The pitchfork/powerpill element is not overplayed and the designers at Exidy have done a totally commenda-
ble job of combining the best of the maze-chase/maze-creation contests with the more innovative and abstract
elements of videogaming. The action, however, is quite fast, and mastering this flying joystick may take some practice.
The audio is marvelous, filled with enchanting melodies when a room is walled in, and lots of the bells and whistles 2nd beeps and boops are especially effective in the side-
mounted speakers that create a stereo-like effect for the player.

**TRON**

**HOW IT PLAYS**

The Tron game begins with the player choosing among four different scenarios, selected by moving the cursor up, down, right or left. Complete the four missions and start again at a higher dif-
culty.

**LIGHT CYCLES:** The player is guiding a light cycle around the game grid that leaves a solid wall wherever it travels. The object is to have your opponent run into a wall, or the grid border, before you do. By the second level, however, the number of enemy cycles being confronted leaps from one to three.

**MCP (MASTER CONTROL PROGRAM):** In a sequence that duplicates the ultimate confronta-
tion between Tron and the MCP, your surrogate Program must blast his way through a revolving cylin-
der. Each shot dissolves a section of an individual slave, but since the column is constantly turning—new, untouched sec-
tions are regularly moving into view. If Tron makes physical con-
tact with any of the staves he is “derezzed” and a life is lost. The object is to blast through the pro-
tective shell into the cone of light at the top, representing the MCP itself. Eliminating all the bricks gains bonus points.

**TANK MAZE:** The player com-
mands a single tank up against first one, then more (lots more) enemy
tanks. The robot vehicles can take three direct hits before blowing up, so once you get past the first level, it becomes imperative to master bank shots so that the mis-
siles strike their targets via deflection as opposed to straight on—
remember, the robots can absorb two hits without harm while the player’s tank can take but one. This is strictly a game of angles after level one.

**I/O TOWER-GRID BUGS:** In order to communicate with the outside world of Users, it is im-
perative that Tron reach the I/O Tower—the in-out device through which the real world is accessed. Problem: the tower is guarded with ever-multiplying grid bugs and robot spiders who must be dealt with before Tron can enter the tower and be beamed up into contact with reality. There is also a time limit, so players can’t spend too much time dallying with the spiders to pick up points. Especially at the higher levels, it is imperative to simply blast a pathway and squirm into the tower as quickly as possible.

**CONTROLLER:** The glowing joystick is used as a directional de-
vice in all games with a top-
mounted action button. In the Light Cycles scenario, only the joystick is used with the action button designed to increase speed. In all other games, the stick is used for direction, the action button to fire and a round nob is employed that enables Tron to aim his weapon in a virtual 360° arc.

**PEPPER II**

**HOW IT PLAYS**

Pepper II is a maze-creation game that inventively melds fea-
tures from games as diverse as Qix and Pac-Man. Players use a four-
directional joystick to explore a series of rooms on the playfield. Players are represented by a small, green pepper that leaves tracks in its wake—and erases them by backtracking.

The object is to connect the posts in the corners of the room and enclose the room, which causes it to fill with color and gains points for the player.

The Pepper has two foes—the roaming eyes and the Whip-
nersnapper, a big pink ugly who devours any tracks not completely closing off a room. Should the Pepper seal-in a room containing a pitchfork, it transforms into a devil, in which state the eyes are vulnerable and the Whipp-
ersnapper can be held at bay, at least temporarily.
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NEPTUNE
Gebelli Software/Apple II/48K disk

When ace designer Nasir Gebelli announced he was striking out on his own with Gebelli Software, it made headlines in the computer gaming field. How would Sirius Software do without perhaps its biggest name? Can a designer successfully cross over and become an electronic publisher? Those were the questions.

The reading on Nasir's former publisher came in almost immediately. Sirius continues to fly higher than ever on the wings of such releases as Bandits and Kabul Spy.

Gebelli Software has not been quite as sure-footed since the Great Divide. The firm's first few games were all right, but with the possible exception of Ruskii Duck, none appeared to make a big impression on players.

The publication of Neptune gives promise that Gebelli Software is now ready to take its place among the better game software companies. This solitaire action contest takes the scrolling shoot-out concept beneath the waves to the depths of the ocean with some very entertaining results. As Commander-in-Chief of the naval vessel Neptune, the arcade just rides neutral waters of an invasion force of undersea robots.

Your submarine is heavily armed for this mission. Depending on which button you push on the controller, you can fire a laser gun straight ahead or bomb objects at lower depths. As per usual in scrollers, the supply of bombs is limited (to 20 in this case) and must be used with a little restraint.

Neptune is Nasir's own creation, and the maestro is in top form, especially when it comes to reproducing the dynamics of underwater navigation in computer game form. The player's submarine moves like a sub, not a spaceship or helicopter. Similarly, some of the menaces bob up and down between the surface and the ocean floor, making them more dangerous than the usual ground-launched missiles since they can, in effect, attack from above as well as below your vessel.

Welcome back Nasir.

(Left) Apple II version of Rear Guard and (Bottom) Atari model

REAR GUARD
Adventure International/TRS-80, Apple II, and Atari 400&800/32K disc

Playing the Atari version (using Atari BASIC) of AI's latest action-SF game is an absolutely amazing experience. Virtually all the typical criticisms of BASIC programs—which boil down to

(Arnie Katz)
Can You Conquer the Dangers Rampaging Through the Ocean?

slow movement and poor control—are inapplicable. Neil Larimer's Rear Guard is a rousing success, a horizontally-scrolling multi-option blast-up that overcomes spare but evocative visuals to give players a blindingly fast arcade-style contest that compels you to keep playing.

Gamers man a huge, cannon-armed starship which can move in any direction. Pairs of smaller craft appear, moving across the screen from left to right. These two targets must be destroyed, either by ramming (which drains 10% of all energy the ship possesses) or by a direct hit from the cannon. The targets enter at random times and in a variety of configurations. If possible, the player should maneuver the big dreadnought between the two clay space-pigeons, moving up to take the prey that rises, then dropping to take out the low-flyer. Don't get down too far, Buck Rogers, hitting the terrain costs a full 10% energy drain.

The computer keeps lists of the number of hits, the number of escapees and the amount of energy remaining. Early on, if 10 enemies get past the big ship, the mission fails and the craft crashes into the mothership. The enemy attacks in ever-faster waves.

Don't use up all your ship's energy by ramming, but don't be shy about using the shields, either. It's better to lose some energy than to let four or five enemy ships slip past. After destroying about 50 ships, the first level of the mission is deemed a success, and play resumes with a clean slate of escapees.

It's such a brilliantly simple game concept that it, of course, works perfectly. It's a reminder that fine software can still be created using BASIC and bolstered machine language subroutines. A surprisingly strong showing in the skill-action category from a company better known for its text adventures. Recommended.

(Bill Kunkel)

RADAR RATRACE
CommodoreVIC-20

Radar Ratrace manages to be charming, juvenile and mildly entertaining all at the same time.

The object of the game is to steer your mouse to the location of 10 cheeses. These locations vary with each game or round played. The mouse, upon touching a cheese, gobbles it up, and then it's off to the next slice. The folks at KRAFT will be delighted.

Unfortunately for the mouse, he is relentlessly pursued by three rats (four if he survives round one), who would rather dine on him than the cheeses. On occasion, the mouse comes face to face with a cat who would like to have mouse for dinner.

The mouse has several things going
for him in his quest. He has, after all, a human brain to guide him through the scrolling maze in search of the cheddar. He is also armed with rat-stunning vapor which may be released as needed, and he has three lives. Best of all is the small rectangle to the right of the primary playfield which reveals the positions of the cheeses, the pursuing rats and the mouse. This "radar" screen shows the entire maze and the relative locations of each game element. Only a small portion of the maze is actually shown on the main screen at any time. Above the playfield, which takes up about two-thirds of the screen, is a timing gauge and score display.

As the game progresses, and time gets short, the mouse slows down and will be consumed by a rat unless he gets all the remaining cheeses. Just before his demise, our riotous rodent loses his anti-rat capability too, so speed is important in the quest. A computer rendering of "Three Blind Mice" (what else!!) accompanies the action.

Precise control of the mouse is critical and will strongly influence the outcome of the game. The stiff VIC-20 joystick makes the game harder to play, while a well worn, older Atari joystick worked especially well with it.

As with most VIC-20 games produced by Commodore itself, bright, vivid colors shine through, and the graphics, while not overly refined or detailed, are excellent. Radar Rattrace is a funny game in that it had greater appeal when initially played than it maintained over time.

VIC-20 owners should certainly try this very original game, especially if there are children present to play it. Radar Rattrace has charm, color, action, and is highly amusing for children. While kids seem to take well to Radar Rattrace, adults find it amusing, but not addictive.

(Henry Cohen)

HAUNTED HILL
Swifty Software/Atari 400 & 800/32K disc with Atari BASIC

Swifty Software, the Melville, Long Island-based producer of Atari computer software, is one of the more interesting small companies in the electronic gaming field. The whole operation is run by Lee Jackson, a full-time teacher who has an incredible eye for programmers.

It was from this humble source that a game dubbed Space Chase first rose to public notice over a year ago, picking up a rave as a dark-horse classic in the very first issue of EG. That game's designer, Fernando Herrera, went on to more than justify his early promise by winning the first Gold Star award from Atari for the best piece of individually produced software for the 400/800 computers, My First Alphabet.

Fernando has since gone on to head up software design for his own company named, aptly enough, First Star Software. So Lee Jackson went out to find a new prodigy, Now Swifty has published Haunted Hill, by G. P. Richardson, an outstanding idea wrapped in excellent sounds and clever graphics.

What at first looks like an offbeat Centipede rip-off turns out to be an altogether different animal with an innovative play mechanic—and no way to take advantage of it. Programmed entirely in BASIC, players will, in turn, become puzzled, frustrated, angry and astonished.

Haunted Hill should serve as a primer for "Everything Bad About BASIC as a Language for Programming Games", a tome EG's Game Doctor has been threatening to write lately. Players control an allegedly horizontally-mobile human surrogate. The playfield itself is littered with tombstones and a snake-like conga-line of vampire bats. Players fire at everything. Hitting a bat turns it into a tombstone. The grave markers can withstand up to four blasts. A color shift marks each successful hit. After four hits, the headstones either disappear or become ghosts—the real heavy duty characters here. Hitting a ghost counts for bonus points, but you can't let the beggars touch you, or they instantly frighten you to death.

Sounds like a real hoot, no? Try playing it in BASIC, then ask me. The response is frequently non-existent. Imagine the thrills and delights of getting trapped in place, all but snapping
PLAYFO

COMPUTER GAMES THAT ARE THE CLOS

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HAUNTED HILL/Continued

your joystick shaft from its base due to the incredible torque as a ghost heads right for you—and you can't move.

Please, folks, get real. Re-program this gem in assembly language—or at least employ machine language sub-routines. Fernando overcame the speed problem in games such as Space Chase and Time Bomb, but G.P. Richardson is dealing here with a flat-out speed/action contest and BASIC joystick response just won't cut it.

As many game programmers have shown, BASIC still has its place in the world of computer game software. Haunted Hill, however, is definitely not that place. There is no denying the considerable talent of G.P. Richardson, however, and the thought of what this game-maker could do with a workable design language should make the mouths of gamers everywhere water in anticipation.

(Bill Kunkel)

DELUXE INVADERS
Roklan/Atari 400&800/16K disc

Deluxe Invaders is by far the best Space Invaders program ever released for a personal computer. Atari's own version was a big disappointment because of the graphics. While they were very good overall, they didn't really resemble true Space Invaders visuals.

Roklan has put it all together.

Deluxe Invaders can be played by one or two people. The invaders drop down noisily from space to begin the attack. The barriers are present and, just like in the coin-op, can be breached by the player. The UFO also appears across the top of the screen as in real Invaders. The player must shoot all the aliens and clear the screen. Then the invasion begins again with the enemy one row closer to the defending cannon. As you all know by now, no one ever wins this game.

Roklan has included some unique game variations to its edition. One interesting idea is that the invaders split into two little aliens when they're blasted by the player. This makes for a totally different style of game. Normal invader strategy goes out the window when this option is chosen. At times there are unusual combinations of large and small aliens in the same row at the same time.

It is clear that the people at Roklan Software really know the Atari well. The sound and graphics routines in this game are excellent.

However there is one slight bug in the program. When in two player mode, the high score is only registered for player number two. This is not a serious problem but it is annoying.

All in all, Deluxe Invaders is an excellent version of the classic arcade game. I would definitely recommend it.

(Leigh Goldstein)
Mike Dubno has done a remarkable job in designing a home game that has so much of the excitement and fun of Atari's coin-op star, Centipede. While it is easy to fault Megasoft's decision to follow an existing title so closely, there's no possible way to quibble with

the quality of the execution. Megalegs will surely give every other program of this type, including Atari's own personal computer edition of Centipede a run for its money.

In Megalegs, the player gets a base at the bottom of the screen. It is possible to move horizontally and vertically while shooting missiles at the various creatures and mushrooms that inhabit the playfield. The goal of the game, as usual, is to score the maximum number of points. At 10,000, the player is given an extra base.

The driving force behind Megalegs is the fact that the game is progressive. As one plays and scores points, the difficulty increases. The way this game builds difficulty is astounding. Players can fire unlimited missiles, which destroy all in their path. The best strategy is to get the centipede-like creature that moves across the screen. The little turtles and dropping objects also yield the higher points than the stationary mushrooms.

This game is addicting. The integration of the joystick into the game is excellent. The graphics are smooth, flicker-free and quite well done. The objects are a little bigger and clumsier-looking than Atari's own graphics, but all in all, Megalegs holds up well in the playing.

The only complaint that has arisen from other arcades, is the fact that one could hang out at the bottom of the screen and get the turtle-like creatures and falling mushrooms if the last section of the centipede has not been destroyed. Once the last part's eliminated, the screen changes colors and the centipede begins its journey down the screen again.

All in all, Megalegs is an excellent new game for the Atari computers. It boasts some of the finest programming seen so far for these machines. Don't miss this one.

(Leigh Goldstein)

**THRESHOLD**

On-Line Systems/Atari 400/800/48K

When On-Line began producing games for the Atari computers as well as the good old Apple II, it was a major piece of good news for owners of the 400 and 800. The Coarsegold, CA company has done it again by releasing this home version of the popular Astro Blaster from Sega/Gremlin.

When On-Line publishes a game, prospective purchasers can generally count on fast action, superb graphics and stirring sound effects. Threshold easily keeps the company's stirring reputation intact.

The game opens with five ships docked on the right-hand side of the screen. The top ship explodes off the pile and heads into space to do battle.

The player controls the ship, using the joystick, moving side to side at the bottom of the screen. The player must destroy an incredible number of screens of aliens to win this game.

The player can enter warp drive by pulling back on the joystick. This slows all action on the screen down to a crawl. It is then possible to shoot the enemy and actually clear a screen. Only one warp drive per ship is allowed.

The enemies are constantly dodging and weaving while they blast away at the player. Clever strategy plays a very important role in this game. On the right side of the screen is a heat gauge that tells the player how hot the laser gun is. If it overheats, then the player must wait about 15 seconds until it cools down before shooting again. Shots must be planned intelligently and fired accurately, or the game won't last too long. After the player clears four screens, the mothership descends from orbit, and the player receives bonus points and more fuel.

This is one of the sore spots in the game. Probably because of memory limitations, it is necessary for the program to access the disk at this juncture. It slows down the pace somewhat, and seems to interfere with the flow of the game. After the docking, new screens appear, and the fun continues.

The graphics in Threshold are tremendous. The first alien screen is filled with bird-like creatures. Their wings flap, and they rapidly drop bombs on the player. The animation is flicker-free and smooth. Rumor has it that there are over 20 different screens in the program. I have only been able to see about six of them, and all are fascinating and original in design.

The only major complaint I have with Threshold is that it is too difficult. After many hours of play, it's still very hard to reach the higher levels. So if you'd like a challenging and fast-moving arcade game for your Atari computer, then Threshold is it!

(Leigh Goldstein)

**SHUFFLEBOARD**

Innovative Design Software/Apple II/48K

The company that made its reputation by publishing the unexpected and unusual shows no sign of deviating from this successful policy with its latest entry. IDS1 has elected to follow its Pool 1.5 and Trick Shot with a simulation of a sport that everyone has played—shuffleboard.

And its an accurate simulation, too. Whether you're playing Tally All or Cutthroat, both of which can be enjoyed with this program, you'll be participating in a reasonably faithful electronic replica of the pastime that is a staple at every resort hotel and on every cruise ship in the world.
Some houses are more special than others. Anyone who steps through the ornate carved doors of the Games Mansion knows instantly that they are guests in a very special house, indeed. And anyone who has actually lollled in the overstuffed armchairs that face the roaring fire in the parlor or visited the elegantly appointed Library will already be planning a return visit by the time they are ready to leave.

But the most special aspect of the Games Mansion is that it only exists in the Alpha microcomputer owned by Harlow Stevens—and in the minds of the 250 subscribers to Stevens' Gamemaster, the fun-oriented computer network. The Mansion is actually an electronic clubhouse for the far-flung membership of this unusual service organization.

Although networks such as The Source and CompuServe make games available to their subscribers, Gamemaster is the only one that concentrates exclusively on gaming. Another difference between Gamemaster and the general-purpose networks is that its main area of concentration is multiplayer "real-time" games.

Anyone having a personal computer and a modem (modulator-demodulator) can join. The modem unscrambles the signals sent by Gamemaster's computer, allowing the exchange of information that allows a subscriber in New York City to enjoy head-to-head gaming against rivals located in California and Illinois.

The best way to understand what this service can offer computer gamers is to take a tour of this electronic edifice.

When a computerist joins Gamemaster, he or she receives a membership number and a password. When you're ready to pay a visit, you type in the correct numbers to get Gamemaster on the line, and the Mansion's doorman will ask you for those two bits of information.

Once this formality is done, you are allowed past the doorkeeper, through the front door and into the foyer. There, a bulletin board tells who else is in the house. At the same time, the doorkeeper announces your arrival on the public address system, and any other visitors know you're there. You can also send a message over the PA if you like. You might want to say, "I'm looking for someone to play a quick game of backgammon." Or you could say, "I just wanted to say hello, does anyone want to have a chat in the parlor?"

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around anywhere within the house. But if you don’t feel like wandering, you can “portal” to any room you choose. Just type in the room number and—presto!—you’re there.

The Gamemaster house has 39 rooms on six floors. Besides a multitude of games, there are services, information and other activities, like recipe exchanges, that you might want to join in on.

You can ask for a description of each room. For instance, on a trip to the kitchen your appetite might be whetted by the smell of the cake that is rising in the oven.

If you want to find out what room suits your fancy best, go to the library. It holds books which describe all the rooms. There’s also a balcony off the library, where you can check on the rules of the various games.

There’s an observatory where a monthly horoscope is obtainable. A greenhouse where you can get tips on raising plants and a darkroom for photography buffs to pick up tips on shutterbugging are open to members of this network.

There are private conference rooms where computer gamers can converse in seclusion with each other, or even do business, knowing that everything will be kept classified.

There’s also the mail room, where people can leave private messages for other members, and the parlor, a popular room which is always open to all members. Sometimes, this is the scene for real gab fests.

Indeed, Stevens stresses the fact that the Gamemaster concept negates the dehumanizing effects of computers.

"It joins all ages. No one’s worried about what they look like, how they’re dressed or how smart they are, says Harlow. We’ve got players 12 years old talking to members who are 60."

Proof that Gamemaster is a "friendlier" system than most, is the way various members talk about Harlow himself.

Stevens is always pattering around the house, and although members never see him, they talk to him and about him as if he were the guy next door they’ve known for years.

But while communication is great, the games are the most important thing. They bring the Gamemaster company 60% of their revenue.

Currently, there are 30 games -11 single-player games for which the computer is your opponent and 19 multi-player games.

The games range in complexity from simple extensions of board games like backgammon, which is played in the game room, to more intricate FRP (fantasy role-playing) games like Donald Brown’s Eamon, which is in a chamber in the bowels of the mansion, along with a choice of other FRP and war games, like Nuke Strike which is located in the war room, naturally.

The popularity of war games has peaked in other forms of gaming, but since Gamemaster allows a player to battle against another human general, instead of a machine, war games are well suited to the system. The variables a human mind can obtain are many more than the computer’s limited permutations.

Nuke Strike, a two-player game, is one of Harlow’s faves. To play it, you either set up an appointment with another member in advance, or meet someone in the house who’s in the mood to destroy the world.

The two of you would proceed to the war game alcove, to double check on each other’s presence and then start building up industries, launch pads, and missile sites.

"The object of the game," says Harlow, "is not just to see how many people you can wipe out, but how many missiles you can catch on the ground; how much of your opponent’s industry you can destroy and what intelligence you can gather."

Missile intelligence must locate opposing satellites. Announcements keep flashing on the board telling when one’s own launch pads are clear, what your status is, and when a missile is heading for your site.

"There are many, many variables, everything happening in real time," says Harlow, "the game allows many more choices. Other games virtually play themselves. You’re more of a spectator. With this, you’re actually sweating."

The games are longer on Gamemaster than any you might have played on home cartridges or in arcades. Although there is a 20-minute limit for sending killer missiles on Nuke Strike, the time spent maneuvering beforehand could actually bring playing time up to an hour. A game like
Although most of Steven's members feel that the interaction of the games, the complexity and the imagination of the users themselves more than make up for lack of graphics, some players need flashy visual effects.

Ro Adams, a Gamemaster member from Boston, looks forward to a time when graphics enhance the Mansion's atmosphere.

"I wanted to join Gamemaster," says Adams, "because Harlow visualized a day when he'd be able to have graphics which would show a simulation of myself sitting in the parlor talking to whomever else was there at the same time."

"Computer graphics are a whole new field. There are other services which offer graphics, but I understand you have to sacrifice strategy. IntelliVision has a one player baseball game you can play, but people have told me you sacrifice playability. You can't have extra base hits or double steals."

Other reasons why computer networks have been slow to include graphics are that the games are played in real time, and that each computer has a different graphic capability. The medium has solved the obstacle of different text capabilities because it allows unlike computers to communicate. No such hardware has been developed for graphics.

Stevens is getting around that by designing different drivers for each kind of computer.

"They'll furnish a diagram of the action, which the user will then fill in with information."

How soon these will be on-line is not known, but when they are developed, once again, this will be a giant step for

**Overview of the lower level of the Gamemaster Mansion**

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**LITTLE BY LITTLE, IT ALL ADDS UP.**
computer gaming, and for Stevens. When Stevens first got the idea for Gamemaster, in 1975, he was designing programs for Apple and partner Robert Kniskern, who wanted to see if they could get a network going where there was simply two-player interaction on games, and neither player knew the other's strategy.

"We started out trying to find a way to play a game without turning your back so the other player wouldn't see your moves. I think Backgammon was one of the first games we succeeded on. It was a process of seeing whether the right output was leaving our computer, and input going into the users. Every step of the way we had to work out kinks." The kinks seem to be out. Gamers use Gamemaster 20 to 30 hours a day (total hours of members in one day) and take advantage of special promotions which cut the cost of being on-line. Contests are announced in the mansion and also in the Gamemaster Gazette, a quarterly newsletter which just lowered its annual cost to $40.

Since Gamemaster's central computer is located in Evanston, Ill., and the computers all work through the phone wires, there are also phone bills to consider.

Even that hassle may soon be just a frightening memory. Stevens is upgrading the system to the point at which it will be available for franchises.

And knowing Gamemaster, there's no reason to believe that that won't happen soon.

To join Gamemaster, you can write to them at Gamemaster Box 1483, Evanston, Illinois 60204.
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By FRANK TETRO JR.

CHOPPER COMMAND

Activision/VCS

Chopper Command typifies a horizontally-scrolling shoot-out in which you must navigate an armed helicopter, hovering protectively over an army supply convoy. Destruction beckons from all directions as an endless parade of copters and fighter jets buzz the skies, firing at both your chopper and the convoy below.

The game is played in waves, each considerably more difficult than the last. Each consists of 12 attackers, including helicopters worth 100 points and jets good for twice that amount. Every 10,000 points adds an extra chopper to your original fleet of three.

The attackers have an especially deadly weapon in the form of a "geminium"-type bomb. After launch, it splits in two, sending one after your chopper and the other after a convoy truck. Losing both to a single shot can be a painful experience. There's nothing that can be done about the truck if a bomb has its name on it, but the player can always swerve away from the deadly explosive. At the first sight of a gemini bomb, obliterate the ship that fired it and scoot out of there as quickly as possible.

Learning to use your radar scanner is the key to mastering this game. The enemy flies in groups of three, stacked vertically. This allows you to literally strafe the entire air space, launching a salvo at every notch up or down the playfield. But never fly too fast! The joystick controls move the ship in all four compass directions. Travel vertically with confidence. Although the lowest flying attackers are generally the most immediate menace, just watch your scanner and edge slowly toward the squad of your choice. As soon as an enemy craft appears on screen, stop all movement. They'll come to you, so don't worry about that. As they attack, use a combination of evasive action and filling the skies with lead (ammo is unlimited). Flying toward the attackers just increases the odds of running into one, head-on.

Practice with the scanner will allow players to destroy attackers before they even appear on screen! Simply line them up and ease up to the point where the enemy will appear. If you've set your copter up correctly, the attacker should run right into your line of fire.

Once an enemy appears and commences an attack run, don't engage him head-on unless you are still within the first two waves. Beyond that point, the enemy moves so quickly that your ship is likely to be rammed before you can even get off a shot.

While flying like an airborne Mario Andretti is not recommended, don't be too much of a slowpoke. Otherwise the ships to your rear will catch up and blow you away. It's best to fly just fast enough to keep the approaching enemy in sight, or perhaps just beyond that point.

Some players prefer a strategy that involves movement in both directions.
Because the troop convoys and attackers tend to fly and drive from right to left, I recommend always flying toward the right. The only time it may become necessary to turn is if the enemy catches up from behind, or if only one or two enemy ships remain and expedience dictates leftward movement.

Also keep in mind that flying too low can cause a collision between your chopper and a truck. The truck wins. It's impossible, however, to accidentally destroy one of your own trucks.

FREEDOM FIGHTERS

Odyssey²

Freedom Fighters places you in the cockpit of an Earth Federation starship with a specific mission: rescue as many terrane captives as possible while dodging enemy drone-mines and pulsar warships.

Each mine destroyed earns a point while a big five points are culled by blowing up a warship. A rescue operation, however, is good for a 20-point bonus. The priorities here are pretty obvious.

Tactically, concentrate your firepower on the pulsar warships. No matter how many mines a ship drops, once the warship is disintegrated, all of its mines disappear from the playfield. Try to use minimum speed. I recommend staying with the conventional drive as long as possible, using the warp only to escape when things get too cluttered or to catch a confinement crystal—the amber-like substance in which your fellow earthlings are imprisoned by the aliens.

Don't get trigger-happy in this game, because you're liable to destroy a confinement crystal by accident. When you do hit a mine or warship, continue to blast away at the wreckage for an extra point. Contact with this space rubble, however, will destroy your ship.

Obviously, the main idea here is to free the captive earthlings. This may not always be the right thing to do, however. Should a crystal appear, for instance, beside a warship, only top-class helmsmen are recommended to give it a go. A tricky maneuver, to say the least.

For you Defender fanatics out there, you might try this approach: use your conventional drive to place the Federation ship on the left of the screen. Next, grab the hyperspace control and use it to move toward the right. You may go at full-thrust fairly safely and simply hit confinement crystals as they appear on the playfield. Again, this is a strategy for Defender-freaks exclusively, and even then only until 100 points are accumulated, at which point a return to the conventional drive is in order. That's when those warships really start warping!

SPACE CAVERNS

Games by Apollo/VCS

Space Caverns is an offbeat variant on the Space Invaders theme that has you taking on strange aliens from both above and the sides. The scenario places you on a mysterious planet with three crew members.

Electrosauri points and the little ones earn you 165. Marsupods add an extra 200 points to your score, and every 20,000 tallied earns an extra crewman.

Unlike other aerial attack games of this nature, the best strategy here is to move as little as possible and stay at the center of the screen. After some play, you'll catch on to the fact that the attackers don't exactly have the greatest aim in the world. They tend to drop charges right next to your crewman, hoping to panic you into the falling bomb. Try to stay within the middle three to five inches of center screen. You don't want to be standing next to a cave, obviously, just when a marsupod decides to take a stroll. From center screen, there's always time to react.

When firing at the electrosauri, there's no need to "lead" them with your shot. Shoot them, instead, when they're right above you as your blast will travel fast enough to take it out. As for the marsupods, getting used to the up-down firing mechanic is, again, the toughest part of the game.
I hope most of you were glad, as well as shocked and surprised, when E.G. announced the addition of "Pinball Palace" to its already extensive repertoire of regular features. I'd like to think that, by the end of this second installment, even those who've strictly been videogamers before, have become at least a little intrigued by that other form of coin-op entertainment, the pinball machine.

As evidenced by the titles discussed here this month and last, designers at the few remaining pinball manufacturers, which are trying to keep the dream alive, are pulling out all the stops to extend the frontiers of flipper games.

The traditional dimensionality of the games has ordinarily been more a factor of the perceptions of the players than reality. Even the advent of multi-level machines hasn't changed this, since the action still occurs on a series of flat planes. Admittedly, the depth of field that one experiences when playing, owes more to the fact that features appear to grow up and out of the board with the ball racing around, over and through on its given journey. However, this has been dramatically changed by this issue's first game on view. See if you don't agree.

ORBITOR 1
Stern

Since 1976, when Stern took over the facility of a beleaguered Chicago Coin, the company has provided a remarkable success story for its activities within the industry. An innovative and daring approach to videogames, the creation of a unique Video Music Center which looks as if it offers a vision for the future of the pinball machine, really added to the totality of three-dimensional play and action. An almost lunar-esque surface, illuminated from below and replete with ridges, curves, peaks and valleys is the obvious attention-getter, but the action doesn't stop there. Orbitor 1 has managed to overcome what might have posed design problems by maximizing the function and position of a minimum number of features.

There's possible two-ball, multi-ball play which is tied into a top bank ofseven drop targets (O-R-B-I-T-T-O-R). Just lock up a ball on the left side, hit down the targets, and it's off to the races with some very fast-paced, crazy action that might even make you a bit dizzy if you really try to follow the path of the ball. Adding to the confusion of easily tracking the ball are two widely spaced revolving discs, perched at midfield, which replace the conventional thumper bumpers we're all more accustomed to and only adds yet more spin when a ball is propelled away.

A bank of three drop targets at the left as well as another at the lower right can mean the accumulation of bonus multipliers up to 15X. Although there's only one way to lose the ball (through a small hole just below the flippers), mastering and trying to control the nuances of ball movement on the Orbitor 1 board, let alone feeling comfortable and adept at hitting the few target areas is no cinch.

But playing the game, which integrates some strong sound effects and speech, is a singular experience well worth the effort. There are some especially interesting rolls when the ball gets down to the flippers. To further aid the challenge, Orbitor 1 offers a back glass display for ball time. If you can beat the posted total it will result in a free play. Stern plans to follow up with variations on this theme of an unconventional board, so whatever your motivation or interest, try your hand(s) at a truly novel and different kind of pinball machine which just might catch your fancy, or, if nothing else, put it to the test.

RAPID FIRE
Bally

The longer you're around coin-op games and the more sensitive you become as a player, the more obvious it becomes to you that when a single
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Andy Breyer
Champion
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“The graphics on Phaser Patrol™ are as good as on many arcade games. And the game itself is designed to stay challenging. Even to me.”

---

[Image of a spaceship flying through space]
manufacturer hits on something even remotely different or promising, others soon follow with variants on the same theme in the hopes of capturing a portion of a "new" ready and willing audience.

When Williams introduced Hyperball, its new-concept machine, Bally saw an opening. It wasn't too long before it unveiled its own "shooter" game, which many initially saw as a pinball variation, although, by design, it owes more to videogames.

The most noticeable thing about Rapid Fire, besides its newly styled cabinet design (simultaneously introduced on Mr. & Mrs. Pac-Man), is the inclusion of a dual set of pistol grip handle gun mechanisms rather than conventional flipper buttons. In fact, there are no flippers, bumpers, kick-out holes or even spinners on the field. Instead there are eight holes (four on each side) which feature their own ornately embellished overhangs that only add to the perceptual depth of the placement. Along the top is a set of targets with corresponding letters (F-R-E-N-Z-Y), while the rest of the board is an array of graphics and lights.

Rapid Fire's front control panel provides two buttons, one a "panic button" for destroying all attackers on the board, the other for firing "laser cannons". The only other things players have to worry about manipulating are buttons on the two main triggers, which control and move a force field for additional protection against the storm. Otherwise, play is relatively simple, especially for videogame cross-overs.

The strategy is to stop the oncoming invaders from wiping you out in their relentless mission. They first head for the sides, then up to the top, before heading down in the guise of red warriors on the field to man their waiting ships. Points are scored for getting past each wave of attackers as well as for spelling out that top F-R-E-N-Z-Y with "Rapid Fire" guns that are true to their name—they can shoot up to 480 balls per minute.

The action is quick with sights and sounds that are more than satisfying for any trigger-happy game player, although it's easy to think that Rapid Fire might get lost in the shuffle of some of the other releases hitting the streets, not the least of which is this same company's Tron videogames. But hang in there and give this new game format a shot, after all, you might well be seeing more of them in the future.

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dog which has so captivated the public's fancy, that it continues to come back and give us more. It's legend strong enough to inspire dozens of magazine covers, produce a hit song "Eye of the Tiger," and make Sly "Rocky Balboa" Stallone more real than its real-life inspiration, Chuck Wepner.

Graphically faithful to its inspiration, with sound effects and play action to match, Rocky could really be considered a throwback to another era of pinball design if it weren't for some telling nuances which are easy to miss at first glance. The main playfield features include a top kick-out hole and three thumper bumpers (red, white and blue) as well as a single flipper and a right side drop target bank (1-4-blue target-7-10). Move down and there's a series of roll-over lanes at the right, a slightly slanted spinner lane in the center and a long alley up the left for access back to the top. The bottom, however, shows the most deviation from the norm outside of its left side three-bank (3-6-9) of drop targets and another three-bank over at the right (2-5-8). The configuration of the flippers is where players are going to have to adjust. There are two on the left side (a left and right) and two on the right (a left and right), with a center lane down to a kick-back kicker for collecting bonuses.

The strategy for Rocky is simple—just go for the numbered drop targets in sequence to 'win rounds' and gain greater bonus multiplier values up to 10X. With complementary crowd cheers and speech to tell you how you're doing, it's easy to envision going to the head with a punch (those top drop targets) and then following with a right and left to the body (the lower drop target banks), because that's the nature of the action and how to maximize your shots. It's all beautifully tied in and balanced although there may be some inherent problems with the angles that make shooting off the flippers more linear rather than lateral.

However, for true pinball players, the challenge is there to master a technique that results in consistent scoring from game to game, as well as the added incentive of trying to win more and more rounds. A seventh digit is included on the backglass displays for recognizing scoring, which can reach into the millions. So conventional pinball and variations on a theme continue to be released for those players who want a new and different challenge other than what can be found on the video screen. A couple of final points worth mentioning include the suggestion to hunt out Gottlieb's Devil's Dare if you can still find one at this late date. Introduced in the spring, this multi-ball, multi-mode timer machine offers some pure, long shots, good integrated action top to bottom and more than enough shot making for any caliber of player. The only problem is that those models remaining on location might now be less than they should due to regular wear and tear, however, it will be worth the quarter to try your hand.

Another matter is the case of this writer's error last time out in the review of Mr. & Mrs. Pac-Man. I stated that there were two flipper buttons on the left side of the cabinet. You haven't been playing a less-than-complete game, nor are you crazy when you can't find it, because that extra button doesn't exist. For me, it just seemed like there were two, when in fact there is only one. For those who caught the oversight, rest at ease, so did I. You others haven't been playing. Shame on you. There's going to be a test at the end of the year. Until next time, try not to get too flipped out over the array of new equipment, they'll find their way to these pages soon enough.
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Published quarterly by the Computer Systems Division, Commodore Business Machines, Incorporated. The Meadows, 487 Devon Park Drive, Wayne, PA 19087. Subscriptions $10. per year, $15. outside the U.S.

Today's computer-owner may sometimes feel like a true pioneer. Certainly, being the first person on your block to own a personal computing system is fairly hot stuff. The trouble with pioneering, however, is that there are no guides or reference points to help when user-oriented problems arise.

The computer manufacturers have begun providing some of these answers with magazines and newsletters. For users of Commodore's VIC-20, Power Play magazine will prove an invaluable aid in times of computer distress. There are programs, how-to features, and plenty of up-to-date news relating to hardware and software for the system.

There aren't any color pictures or fancy graphics here, but lots of meat for novice as well as grizzled VIC veterans.

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Electronic Games 95
Put Muscle into the Atari VCS

At least some readers will remember those old advertisements for muscle-building courses in which the skinny hero has sand kicked in his face on the beach by the big bully. Owners of the Atari VCS must sometimes feel a bit like that undernourished fellow. Though the system has many excellent characteristics, it does seem to come in for more than its fair share of abuse from those who play their games on newer, more powerful home videogame machines.

To continue that trip down memory lane, students of history will recall that after taking the course, the now robust young man is able to turn the tables on the bully and give him a taste of the same medicine.

Now there’s a muscle course for your Atari VCS. It’s called the Supercharger. This device, manufactured by a new West Coast concern, Arcadia, Inc., produces on-screen graphics of amazingly high quality with every detail clearly visible. Even better, this system will allow Atarians to buy highly advanced programs with multiple playfields and state-of-the-art audio-visual effects for about $15 each!

Best of all, the Supercharger is not a pie-in-the-sky idea that will be available “in mid-1984” or some such. The units should be in the stores in time to purchase one during this holiday season.

By the way, don’t tune out if you’re not a VCS owner, because one of the two new products we’re about to discuss is compatible with Odyssey², TRS-80, Apple, VIC-20, Atari 400 and 800 and the TI home computers as well.

Perhaps the most exciting innovation to ever become available to VCS owners is the Arcadia Supercharger. This device, which looks like an elongated game cartridge, is actually a supplemental computer that adds 2K of ROM and 6K of RAM to the VCS. It is powered by the VCS and only requires that you have a standard audio cassette recorder at the ready to load its programs.

Lest any reader think the Supercharger is simply a gimmick, it most certainly is not. The unit was developed by Bob Brown, the same fellow who headed the team that created the VCS itself, and Craig Nelson. Although neither still works for Atari,
there are few people around more knowledgeable about the VCS than Bob or Craig.

The Supercharger, aptly named, increases the Atari's memory sixfold and also enables its graphics generator to fill every one of the 263 scan lines used on your TV screen. This double threat produces the effect of high-resolution graphics that are truly incredible.

The Supercharger is inserted into the VCS cartridge slot, an emanating cable is plugged into the monitor or earphone jacks of a cassette recorder and presto! You're in business. Load a game tape into the recorder, switch on the VCS and a message will flash on the TV screen advising you to rewind tape and press play. Usually that's all there is to loading a program. A few moments later and you're set to go.

Arcadia has not stood still in the software department either when it comes to innovation. Each cassette contains the game program, a demo mode and previews of future games. To activate the latter, simply press "play" again after a game is loaded. To speed loading, each cassette is recorded at two baud (data transfer) speeds. Side one, as of this writing, is recorded at 3000 baud, side two at 1500 baud. The rate at which you can load programs is actually dictated by your tape recorder since its age and condition are the determining factors. As the games load, the TV screen fills with color (coming in the form of continuous vertical bars emanating from the sides toward the center of the picture) and a tone is heard that increases in pitch as the loading process continues to its conclusion. Using EC's equipment, loading took about 17 seconds at 3000 baud and 32 at the slower 2000 baud speed. (Note that these baud rates are extremely high compared to most home computers.)

As with any cassette loading system, remember that the tone and volume controls of the recorder may require some adjustment before perfect load is achieved. Once set, however, readjustment should not be necessary unless the batteries of the recorder are hopelessly depleted.

We had no trouble loading the programs the first time out and you shouldn't either.

The Arcadia Supercharger lists for $69.95, which includes its first game, Phaser Patrol, in the purchase price. Additional games, three of which are already available, list at $14.95 apiece. This group includes the already infamous Communist Mutants from Outer Space; Fireball and Suicide Mission. Also scheduled for immediate release are Killer Satellite, Labyrinth and Excalibur. As all Arcadia games will be on cassette tape, it won't be long until titles become available from sources other than Arcadia.

But what does all this new technology mean to current and future VCS owners? Simply this: The graphics produced by the Arcadia are the equal of any home system and just short of coin-op quality. This unit generates high-resolution graphics that live up to their name.

On a 19-in. TV set, characters a 1/
16-in.-wide were clearly defined. Scrolling is also improved. As you fire at Dracon attackers in Phaser Patrol the deep space background glides unerringly by on your view screen. No flicker, jumping or appearance of a separate background and foreground. Your guided missiles home in on their targets (if your shooting is good) and then explode with realistic decay. It's almost like watching special effects in a movie. Sound effects are very good to excellent but the emphasis of the unit is on graphics and game complexity.

Aside from graphics, the increased memory and capabilities of the Arcadia allow for the use of several playfields in one game, an increase in the number of objects seen on the screen, all with no sacrifice in playing speed. Is there a downside to the Arcadia? Not really. Tape loading time is obviously slower than the instant response of a cartridge load, and the unit requires the use of an audio cassette recorder.

The initial cost of the Arcadia is higher than any single game cartridge from any manufacturer, but it includes a super space game and subsequent software purchases will be lower priced than from any other source.

It should be clear to all readers that EG’s editors feel the Arcadia is one of the greatest products to ever enter the field of home videogaming. It is a device that single-handedly will keep the Atari VCS up-to-date as it faces competition from a whole new breed of senior programmable systems about to enter the market. It can also help hold down the cost of new game purchases and hopefully will breed an aftermarket group of game suppliers. We can hardly wait for Activision or Imagic to program for the Arcadia.

For those of you Atari loyalists who want to see George Plimpton with egg on his face, this is the one and only device that can make your wish come true. After all, Intellivision is a 7K RAM system, while the Supercharger will have your Atari running with 6K—the sky’s the limit.

Now that you've got state-of-the-art graphics for your Atari VCS, perhaps you're thinking about a state-of-the-art controller. Well, dream no more. WICO, the coin-op industry's largest supplier of original equipment controls has come to your rescue. And as mentioned earlier, to the rescue of older-model Odyssey² fans, and owners of Apple, TI, TRS-80 and any Atari-compatible home computers. To digress for a moment, months ago your tireless technocrat contacted WICO in order to obtain parts and information on construction of the ultimate home game controller. At that time EG wanted to prepare an article on building your own trac ball controller with built-in firing buttons and maybe a joystick or two. A device to handle any situation. Two things caused us to shelve the idea. One, the cost of the parts was rather high, the trac ball going for $80.00 alone, and most important, EG learned that WICO will soon offer controllers for home use.

Well, that time has come at last and it was worth the wait. The first of the Command Control series is now available in your local stores and by mail order.

How good is the unit? In a word: perfect. This is the first controller (joystick) for home use that equals those found on coin-ops. This is, in fact, a coin-op joystick mounted in a hand-held base.

The 15-9714 joystick offers the user two separate fire buttons. One is located on the base of the unit, the other atop the arcade-style bat-handle grip. A slide switch on the base of the unit
selects which fire button is operative. In development of these switches, WICO worked them over a quarter million times without a failure. The primary leaf switches in the joystick survived over 3 million on-off sequences and that’s a lot. In addition WICO tested various spring levels with 1000 Atari owners to develop the optimum return rate of the joystick and pressure rates for the fire buttons.

Playing a game that requires perfect control is now possible. Moreover, repeat firing is not nearly as tiring to the hand or finger as it is on traditional controllers. If anything, the top-mounted fire button is a little too soft. This blessing only shows up in a negative light if you’re playing a game that can be re-started from the joystick. In that case, don’t bang the unit down sharply or a new game may begin before you’ve had time to photograph the screen. This is because the ultra-sensitive fire button will activate as a result of inertia from a moderate to strong vertical blow. Don’t throw the joystick down on the floor when running for a witness or a camera. Put it down gently, and all will be fine.

Besides heavy-duty parts, the unit uses leaf switches, not depressed-printed circuit buttons. All standard home joysticks like the stock Atari use a mechanism that depresses raised bubbles of metal foil on a printed circuit board. Metal fatigue eventually takes over, and response time fades or fails. The plastic shafts used in conventional controllers are also subject to wear-out from fatigue. The WICO units use hollow metal shafts, not plastic or nylon, and beefy leaf switches.

There is absolutely nothing cheap, shoddy or second-rate about this joystick. It is well made, beautifully balanced and impeccably finished. We cannot say enough good things about this product. The unit is even attractive to boot. For those with older Odyssey² consoles, Apples, TI or TRS-80 home computers, WICO offers an adapter that fits between the joystick and your unit. For the newer, hard-wired Odyssey, no adapter is available at this time. (Be aware however, that even the newest model uses a plug-in joystick. It is simply connected inside the console, which is revealed if you remove the three screws that hold the bottom panel in place. This procedure is factory recommended in order to access the channel selector switch on the Odyssey², so you may feel free to take a peek.)

In addition to the 15-9714 joystick, WICO will shortly be marketing a line of controllers that includes the 15-9730, a similar unit with a red-ball handle rather than the bat-style handle described here, a deluxe version of the basic unit with a heavy duty, weighted base and a trackball.

Lastly, if you’re wondering whether this smooth precise joystick helps increase scores, you bet it has. It is hard to estimate the degree of improvement, but most players report a significant gain. Perhaps in the future you’ll be able to bring your own joystick to a videogame contest, as a golfer brings his own clubs or a tennis player his own racket.

If you’re an Atari VCS (or Sears Arcade Game) owner than this is certainly going to be your year. With the Arcadia Supercharger and the WICO joystick you’ll be the envy of every gamer around. If you own a VIC-20, Apple, TRS-80 or TI home computer, or any other Atari-compatible game unit, run out without delay and buy or at least try a WICO Command Control.

It is simply head and shoulders above any controller we have ever used and that’s saying a lot.

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**PLEASE DO NOT SEND ANY GAMES UNTIL YOU ARE NOTIFIED**
A Gamer's Evaluation

BY HENRY COHEN

A wise man once said, "Good things come in small packages." Whoever coined this adage certainly wasn't thinking about Emerson's new Arcadia 2001 videogame system, but the phrase sure fits, anyway. This unit, which looks something like the Intellivision's baby brother, has got to be the cutest system around.

The carton in which the Arcadia 2001 comes packed, hardly looks big enough to hold a handful of cartridges. Nonetheless, the console packs the power of a senior programmable videogame machine.

Though it's hard to know if the designers considered it in this light, the Arcadia owns the distinction of being the world's first portable videogame system. Besides its diminutive size, always handy in a take-along, the 2001 is capable of operating off of any 12-volt DC power source. This includes auto batteries of the type used in boats and campers, a video power belt or the battery pack of a portable TV. Just think, once Watchman-size color television becomes a reality, you'll be able to fit a complete fun factory into a briefcase!

Flanking the central cartridge slot on the Arcadia 2001 console are two Intellivision look-alike controllers. Just below the cartridge slot is the on/off switch and buttons for reset, game select, option select and start. A "power on" LED completes the picture.

Along the back panel are found conveniently located jacks for two optional controllers, a 12-volt DC power source, two hardwired coil cords (for the built-in controllers) and a channel 3/channel 4 selector switch.

The big news about the system, however, is its extremely high memory capacity. The unit contains 28K of RAM, which makes it the second (ColecoVision has 48K) smartest videogame system around. All this power is great if it is used properly, but unfortunately the only six games available for testing at the time of this writing used more than 8K of memory.

The controllers are almost virtual twins of those found on Intellivision. There are 12 buttons on the keyboard, two firing buttons (Mattel has four) and a disk controller. The latter features a long-awaited innovation, screw-in joystick. If you like the disks you've got 'em, and if you crave a joystick it's there in the box just waiting for you.

Mylar overlays come with each game, as needed, and both controllers fit neatly into the console when play is completed, though the cords dangle.

One glaring omission is that the system does not contain circuitry to either blank the picture after two minutes of non-play or to vary the colors or intensity of the on-screen image. When questioned about this lack of TV protection circuitry, Emerson told EG that it is looking into the situation, but that it feels such protection isn't needed. Emerson may be right, but the company is going to have a hard time convincing potential buyers of this.

Let's take a closer look at some of the games:

The great American pastime Baseball is done justice by way of one delightful innovation in the 2001's diamond program. When a ball is hit to the outfield, a second screen appears which shows an outline of the outfield.
and the single player involved. This provides a much better chance for the outfielder to catch and field a ball than other home simulations. After the player gets the ball, the screen reverts to normal and the coach can direct the fielder to throw the ball to any baseman including the catcher.

With a full nine-player team represented and control of pitching, hitting and running, managers can make realistic plays. The game is not quite as detailed as the award-winning Intellivision cartridge but it is close—and an excellent baseball game in its own right.

It is also easy to learn and to master, giving it a leg up on most of its competition. This reviewer liked 2001 Baseball and looks forward to other sports simulations from this newcomer on the block.

Breakaway, the 2001 approach to wall-bashing is nothing more than adequate. The cartridge is innovative in that it allows varying of the paddle speed and includes a vertical version of the game, but the overall effect was unimpressive. As EG tested an early version of the game and we were told later versions would be much improved, it isn’t worth detailing the problems. Suffice that paddle speed was much too pokey, the vertical versions had to be played with the joystick moving diagonally, and overall control was anything but smooth. Judging from the other games we previewed, we could only wish for the improved version to come our way.

We have no doubt that Emerson can do a much better job than with this first edition of Breakaway. It really shouldn’t have broken away from Emerson at all.

Cat Trax conversely, is not a game for pussycats, but more of a clever maze-chase. Cat Trax provides three, rather than nine lives, as you maneuver your kitty through a maze dodging a trio of hungry dogs. At the same time, the electronic feline must gobble up pieces of catnip and an occasional bone. The bone flashes periodically in the middle of the screen, and if you snatch it, you turn into a dogcatcher’s van that enables you to race through the maze, at a very high speed and capture the offending canines. Once touched, the dogs are placed in the pound for up to 20 seconds of game time. There’s a time clock within the doghouse that lets you know just how long you have to grab the catnip before the dogs are released once more. Each time you eat a bone and send the pups to their just reward, less time is awarded to get the job done. The graphics are clever, and the game is generally a great deal of fun. It is one of the few home maze games that offers almost as much fun as the granddaddy of them all, Pac-Man.

Cat Trax is a good game and should keep you purring for hours at a time.

Sticking within the labyrinth category, there is Jungler. Played in a maze that closely resembles Cat Trax, Jungler pits a gamer’s controlled serpent against one driven by the computer. Notice we didn’t say snake because

Continued on page 105
So how are all your systems feeling today? Ah, Mr. Johnson, that VIC-20 looks like it might be coming down with something. Don’t worry, we’ll take care of everybody’s questions, one at a time.

But before getting down to cases (the old Game Doctor is cooking today, boy), let’s get a little policy out of the way. Every day EG gets dozens and dozens of letters all asking the same question: “Which should I get, (System Alpha) or (System Beta)?”

Do me a favor, and please don’t ask me those questions anymore. First off, it all depends on what you’re looking for in a system. The VCS clearly has the largest library, including the games from independent software producers; the Odyssey² has the keyboard and sophisticated board/videogame hybrids; Intellivision boasts clean, sharp graphics and so it goes. Every system has its merits, and a perusal of a couple issues of EG should tell you better than I could any day.

Now, let’s get to the serious cases. Hmm, we have a T-shirt winner here, I see from the desk of Paul Sarkadi of Ridgewood, NJ. So take ‘er away Paul!

Q: What would happen in the coin-op Battlezone if you kept your tank on thrust and made it all the way up to the mountains? Could you climb up them in your tank?
   (Paul Sarkadi, Ridgewood, NJ)

A: Boy, does the Doctor ever dig this question. That’s using the old noodle, Paul. Alas, the mountains, to our knowledge, are part of the permanent background landscape. Like real mountains, they may appear close by, but after days of traveling they don’t seem any

Q: Does the VCS utilize 2K programming power or 4K since the release of Asteroids?
   (Mark Genovese, Kensington, CT)

A: Actually, the Atari VCS, as of Missile Command and Asteroids, is capable of up to 8K, using a special device boasts RAM (Random Access Memory as opposed to Read Only Memory), enhancing the VCS’s ability to simultaneously manipulate many more on-screen objects.

To get back to earth for a moment, bear in mind that while the 4K game bank switch that flip-flops two 4K programs. There’s even talk of virtually

unlimited ROM in the near future, and then there is the Supercharger. This

“YOU CALL THAT A SHOT?”

102 Electronic Games
has become the standard, as recent a hit as Activision’s Stampede is a mere 2K of gaming delight!

Q: I have an Intellivision and I was looking through your last two issues of EG, and I would like to know why you give so much attention to Atari-related products.

(Robert Parker, address unknown)

A: Actually, Robert, the issues to which you are referring were scant on Intellivision coverage simply because of a logjam between Mattel and ourselves concerning cartridges for review. That situation has since been cleared up.

But if you’re waiting for Intellivision coverage to equal Atari-related stuff, you’re in for a fairly long wait. The fact of the matter is that industry figures, and our own Reader Polls, indicate that the VCS is by far the most popular system. It only makes sense, therefore, to give VCS compatible games the most coverage.

Don’t worry, though, with companies like Imagic and Coleco in the Intellivision-compatible software wars, there should be lots of coverage in these pages to draw your interest.

Q: Why does Intellivision only insult the more unpopular Atari VCS games such as Football or Home Run, and never insult Defender or Yars’ Vengeance?

(David Jolliff, address unknown)

A: Look at it this way, David: If you made the best vanilla ice cream in the world and your competitor made the best chocolate, which flavor would you compare?

Besides, you’re not being quite fair—or have you forgotten all those Star Strike commercials in which Intellivision matched its title against Asteroids?

Q: Will the adapter the ColecoVision is offering for Atari VCS games also be compatible with Activision, Imagic, etc.? Will you have to use the Atari controllers to play the VCS games?

(Lance Glaser, Hollywood, FL)

A: Boy, there’s a sharp crowd in the old office today, let me tell you! Okay, Lance, first let’s talk about this “adapter”. It’s actually an “emulator”, in other words, it’s a tiny VCS with all the graphics chips and everything but control functions (which are taken over by the ColecoVision), so there’s no need to worry about switching joysticks in midstream.

All this is made possible through the use of the Texas Instrument’s graphics chip which features a “clear” function that enables the VCS emulator to override, in a sense, the entire Coleco system, (except, as mentioned, for the controllers).

And yes, it will play all VCS-compatible cartridges.

Q: When programmable videogame designers design their cartridges do they use their own BASIC?

(Ben Lazar, Plainfield, NJ)

A: In a manner of speaking they do, Ben. It’s called “assembly”, or “machine” language. You see, BASIC and PILOT and the various other computer languages are simply compromises between what the computer understands (lots of binary numbers mostly) and common English usage. Assembly language, which has become the standard in all forms of computer software as well, is pure “computer talk” and makes for the best in game play and speed.

Q: I noticed one of your issues of EG stated that the Odyssey² does not have removable controllers, yet I have an Odyssey² with pin-connector type jacks that plug right into the rear of the console. I would like to know, since these jacks so closely resemble the
Atari, would it be possible to interchange or at least buy new springs for my current joysticks?
(Sgt. C.K. Heberde, 581st Signal Co.)

A: The reason your O² has external pin connectors is that it's an early model. Very shortly after going into production, Magnavox concluded that the most frequent cause of system breakdown was bent pin connectors caused by gamers plugging and unplugging them. What they failed to take into account, however, was that since the O² uses only joysticks and no alternate types of controllers, most folks wouldn't bother unplugging them. In any case, the systems produced since then have used internal interfaces, but these, too, can be changed. Remove three screws that hold the chasis together and remove the bottom. You'll notice that the joystick wires are connected via small bolts to the rest of the console. You can unplug the wire by removing the bolts which can be replaced by sending them along with a check for your new Supercharger... Says David Tanny, San Diego supergamer: "I recently purchased Demon Attack by Imagic. The more I played it, the better I got. In fact, I found that after 72 waves (or six rounds of 12 waves each) the picture went blank. I calculated that the maximum score after 72 waves would be between 56,160 and 131,040. Will Imagic correct this problem?" I know just what you mean, David, I'm constantly bothered by attaining scores so high they wipe out the program. Seriously, David, I doubt that one player in 100,000 has ever come close to your score. Why fight it—you're just too good for the damned demons!

DEPARTMENT OF CORRECTION: I don't know how I always wind up with this job, but I guess somebody's got to do it. In any case, our September issue featured an article on deluxe controllers in which we stated that the Starplex console had a "hefty" price tag. Actually, it is very reasonably priced at $29.95! And keep in mind that the Starplex has an auto-fire button that is fantastic on games such as Asteroids, but requires a battery.
some people just don’t like the thought of snakes, much less actually having one in their home, even if it is electronic.

Sticking closely to the arcade version, Jungler challenges players to position a serpent so that its lashing tongue can destroy sections of the rural reptile before the same is done to you. Normally, you can only consume sections from the middle and tail of the opposing serpent, but if you pass through the center of the maze when it is flashing, your head turns color and you can shoot head to head. The game is a little slow, and the maze is a little broad, but Jungler is challenging and fun. It’s also unique to the system, so if this Jungler is your coin-op fave, here is the only way to the safari. The last of the arcade style games, is Space Attack. A combination Galaxian and Space Invaders, Space Attack pits your horizontal cannon against a field of attacking aliens that stays in formation and fires at you relentlessly. An occasional invader comes down one-to-one to keep things interesting. There are no shields and so quick reflexes are key to survival.

One of the problems in Space Attack is that each round starts with the cannon somewhere off-screen to the right. Until you get used to beginning a round with the joystick pointed dead left, you may think the designers forgot a key graphic—your cannon. Other than that idiosyncracy, there is a pronounced slowness to the movement of the cannon we found irksome. Again this condition may be corrected by the time the final versions hit the home market. Other than these two small problems, graphics are good and Space Attack may be considered another reasonable version of several very familiar space shoot-em-ups.

Capture, an electronic version of Reversi is a delight. In this battle of wits, which can be played against another opponent or the computer, the object of the game is to capture and maintain ownership of the highest number of squares on a grid. You capture a square by placing your piece next to your opponent's piece, on a line or diagonal which also contains another of your pieces. In simpler terms you sandwich your opponent's squares with your own pieces. He may then sandwich you in, sort of like putting hands on a baseball bat until no more room is left, and the game goes back and forth until all squares are captured by someone. The game allows you, through its options, to set time limits, change difficulty levels or simply represent two human players. It also keeps a running score and times of each move.

Capture is not a speed and reflex game but rather an intellectual challenge. As such, it's first rate and highly enjoyable. We can only wonder what Space Chess will be like since Emerson is obviously quite clever, judging by Capture, at producing electronic board-games.

That’s the story of the little videogame system that could. At a list price of $200.00, but with an actual selling price of only half that amount, Arcadia 2001 packs quite a wallop for the buck.
Anyone who has ever played chess against a computer has probably heard of Kathe and Dan Spracklen. Kathe and Dan are the design team for Fidelity Electronics, who wrote the program for Fidelity's new Sensory Chess Challenger "9."

Both members of this high-tech couple received degrees in California. Dan has a BA in math from San Diego State. Kathe also went to San Diego State for computer classes, but received her BA in math from Cal State in Northridge.

Both were chess players while in college. Dan played an acceptable game, but Kathe was the real star, a tournament chessist for a couple of years. In fact, their marriage was actually brought about by computers and chess. Kathe's employer got a new computer, and Dan was with Univac, the supplier company. Fittingly, Dan first saw Kathe sitting in the company lunchroom, studying a chess position.

They got into game designing as a hobby. The microcomputers made it possible to program chess just for the fun of it. Doing it professionally followed naturally from there. Together they've been involved in computer chess since 1977, and have written three complete chess programs from scratch. Each time, they threw out everything that had been done previously, and started all over again.

Chess has always been their main programming focus. They wrote the Reversi program for Fidelity's Reversi Sensory Challenger, but consider it just a sideline, relaxation from their main work. It was easy for them to move from chess to Reversi, since it was possible to do a full-web data search in Reversi, much as they do when they work on their chess problems. However, most games don't work in that way. Fidelity may actually decide to do computerized Scrabble at some point in the future, but the Spracklens will not be the designers, since it's not similar in approach to the type of programming they prefer.

Both Kathe and Dan say that, for them, the future of gaming continues to be chess, at least professionally. This is because of the almost unlimited challenge that lies ahead for computer programmers trying to achieve the perfect chess game. They believe that, in the case of Reversi, their program already plays at the level of the human world champion. It actually defeated former world champion Jonathan Cerf, in the first man/machine tournament. (Kathe joked that this was particularly mean of the machine, since Jonathan had helped on the program.)

Unlike Reversi, chess has not been mastered by any computer program. The best to date plays in the 1900's. Kathe and Dan ambitiously expect their next program to move into the Expert category, the 2000 level. Even then, there is still vast work ahead in order to program a chess computer at the Master level, much less Grand Master. Bobby Fischer plays at around 2700, so there's a lot of room for improvement in the art of computer chess programming.

To develop a new chess program, the Spracklens use their Apple computer, tree searching for the best moves in every position. They set up a situation, make a move, then tree search for four or five moves ahead to evaluate the position at that point. Then they judge which move gives the best score four or five moves ahead. The program is created in this way, by a painstaking combination of searching and evaluation.

The only thing the designer can do is reach a personal determination of whether he's making enough money to justify continuing his work. If not, he may as well give it up. This is the
biggest reason the Spracklens decided to cease working for the TRS market. The demand was just not large enough to be worthwhile. Pirates defeat themselves by making the reward so small that programmers have no incentive to work in the field.

Although they both undeniably love chess best, they play other videogames for relaxation. Dan prefers action-type games, but Kathe says, "I don't like shoot-em-ups. When Dan scores 1500 and I score 43, it's depressing."

In an eloquent explanation of why she and Dan are working on chess programs, Kathe agreed that most videogames are great for dexterity and hand-eye coordination, but urged parents to consider teaching chess to their children. "In the real world, there's no direct line of reasoning, A-B-C. If I do A, B will follow, and C will result. Chess helps develop the ability to follow multiple lines of reasoning," she states.

Even children as young as three or four years old can begin to acquire this kind of logical thought process through playing chess, according to Kathe. While adults tend to think of chess as a difficult game, children don't. Similarly, adults are sometimes wary of computers, while kids love them. This makes chess computers a special interest not only for chessists hunting a good opponent, but for parents who want to teach their children a new way to think.

Eg asked Dan and Kathe what advice they would give to future game designers. They recommend, first and foremost, that a hopeful designer should be sure the product he wants to sell is good. The market is large, but not so big that a bad game will be rewarded. Then, once he has a good product in which he has confidence, the inventor should protect himself either by legal advice, or by negotiating very carefully with any company.

The Spracklens warn that there are a few manufacturers in the field who will take work without paying for it. Contracts can be very tricky and filled with legalese that may be hard to understand. Even when the contract has been satisfactorily negotiated, programmers are particularly at the mercy of the manufacturer with regard to royalties. When the finished product is delivered, the designer must depend on the company to do a good marketing job. Royalties depend on the number of sold copies, yet there is always a chance the royalties may not come up to expectations. Even if the product is well-marketed, the designer must remember that there is a large time lag between completion of the program and receiving the first royalty check.

Piracy is another part of the programmer's problem. The Spracklens' first program was unprotected, so many retailers wouldn't buy it, knowing it could be ripped off by pirates. Since that time, all programs have some kind of protection scheme to slow the rate of piracy, but there's no absolute protection, and no way to know exactly what impact the pirates have on the market. After all, you can't tell how many cartridges were not sold.

Kathe explains, "If a kid starts playing against a computer, he simply makes random moves. If the computer says that a move is illegal, the kid doesn't care; he just takes it back and tries again. In this way, he actually teaches himself to play chess, using the computer."

"Chess can help a person learn to make decisions when there are many possibilities," says Kathe. "It helps you learn an entire other way to use your brain."
Be A Sport With Coleco Control 4

By JOYCE WORLEY

BASKETBALL, HOCKEY & SOCCER CARTRIDGES
Total Control 4/Coleco/$15 each

Coleco's Total Control 4 electronic programmable system is exclusively designed to play sports games. An ar- cader can play solo against the computer, or versus a human opponent. If he's feeling his cheerios, he can even challenge two opponents to go against him. When four play, they divide into two teams, but each person controls an individual joystick. Total Control 4 is easy to use for beginners, but the best thing about it is that play becomes noticeably better at upper skill levels.

The system comes with Football and sells for under $50. Once the arcader has mastered the gridiron, three additional sports cartridges are available. Basketball, Hockey and Soccer are packaged together and retail for under $45 for the set.

Total Control 4 cartridges have two modes of play, either manual or auto defense. The player directs the defensive forward and center when manual defense is used. Selecting auto defense allows one or two players to compete against a computer-controlled defense. In both cases, the ar- cader chooses between skill levels one or two. If he fails to make a choice, the computer selects skill level 2, auto-defense, and the player then alternates between the two sets of controls. The right joystick directs the right offensive player, while the left stick controls the left man. When an opponent is defending manually, the right stick directs the defensive forward and the left stick does the same for the defensive center. Pass/Shoot buttons direct the play in the three directions indicated on the buttons, and a fourth button resets players.

In Basketball, Hockey and Soccer the display shows two offensive players lined up horizontally, and two defensive players lined up vertically, one in front of the other. The puck or ball is represented by a blinking light, and lights at each end of the field indi-
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cate goals or baskets scored. The defensive and offensive players (except for the goalies) move right and left, or up and down, one position per push. The goalie or defensive center only moves laterally in front of the goal or basket.

Appropriate whistles and musical interludes enhance the play, of each game. The Notre Dame Fight Song rewards each goal or basket.

Games are divided into periods as indicated on the scoreboard, three periods of Hockey, two halves for Soccer and four quarters for Basketball. Each offensive play has roughly 20 seconds to score, by the ball either being passed, carried or shot down the field. At the end of the 20 second interval, a turnover occurs, automatically.

Each cartridge contains special features to make the play appropriate to that sport. For example, Basketball allows a defender to knock the ball loose by moving into the same spot as the ball-handler. Additionally, the ball can be dribbled into the basket on a lay-up without use of the pass/shoot button. When playing Hockey, a pass travels a maximum of four positions except for wraparound passes. A pass from behind the defensive goal line whips the puck to the far side of the rink, while a pass which reaches the center position behind the defensive goal will wraparound to the blue line. In Soccer, the offensive and defensive forwards move anywhere on the field except the defensive goal or crease.

In all three games, turnovers occur at varying times as appropriate. Such events include intercepted passes or shots, being tackled, a defenseman capturing a loose puck or ball, a ball going out of bounds, or failure to score within 20 seconds.

Overlays for each game are attractive and colorful. All are easy to snap into the Total Control 4 unit. All games have usable playing fields measuring about 2 in. by 3 in., exclusive of the scoring window. Offensive players are indicated by bright lights, and defensive players by dim lights. The puck or ball is a blinking light. When an offensive player has the ball, this is represented by one blinking light.

Total Control 4 plays a fair game of each sport. The mini-joysticks are responsive, and the blinking lights are highly visible against the black field. Play is somewhat smoother in the head-to-head mode, but the solitaire arcade will get a good run for his money, especially at skill level 2.

This programmable system has been designed to play only four games. The folks at Coleco tell Electronic Games that they do not plan additional cartridges for this unit. However, if you’re a sports enthusiast interested in a mini-game of football, basketball, hockey or soccer, this attractive package can provide hours of stimulating play.

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Electronic Games 111
Challenging the new Fidelity Chess Challenger 9

By JOYCE WORLEY

November isn't really too early to think about what you’re going to give those game-loving friends and relatives this year. Stand-Alones are often a good choice as a present, because they don’t depend on the recipient already possessing a hardware system on which to play your gift. This month’s three products cover a range of interests and are priced to fit a variety of pocketbooks.

SENSORY CHESS CHALLENGER "9"
Fidelity Electronics/$165

Since Fidelity marketed its first dedicated chess-playing computer in 1977, the public’s appetite for mechanical chess machines has been slaked by increasingly sophisticated computer programs, providing more advanced levels of play for the chess enthusiast.

The Sensory Chess Challenger "9" will not disappoint any chessist with a yen for a good game, and certainly no handy opponent. The Challenger plays at nine different levels of skill, ranging from novice to advanced. At its top setting, the Challenger is rated 1771 by the United States Chess Federation. (The average player’s level ranges from 1200 to 1600.) The program was written by Dan and Kathie Spracklen (the same team that developed the Reversi Sensory Challenger). Their considerable experience in the chess field, coupled with Fidelity’s already notable technical expertise, has produced an outstanding unit.

The handsome green and tan sensory board is powered either by batteries or the AC transformer that comes with the unit. To make a move, the player tilts the piece, presses it gently first on the center of the original square and then on the destination square. The LED in each square lights, indicating the computer accepts the move. (An illegal move is signalled by beeps and flashes, as the computer guides the player’s piece back to its original position.) The computer announces its move by flashing the LED of the piece to be moved, and the LED in the block to which it’s moving. The gamer again tilts the piece, pressing its edge against the centers of the two squares in-
volved. When the LED in each block darkens, the computer's move is complete.

The Challenger will capture a pawn en passant, and also recognizes when the player does so. The unit also handles casting and pawn promotion, allowing the player to choose the identity of promoted pieces. The player identifies the rank of the computer's pawns by using the position verification key.

The Challenger will warn the human foe up to mate-in-seven moves and announces draws for stalemate, the 50-move rule, or should either player's move be repeated three times. The unit also offers a draw if the computer determines that neither side can force a mate. It can also respond to a draw offer from the human opponent. The LEDs flash in different patterns to communicate the computer's intent to the gamer.

A large number of special features enhance the game. First, the player may choose levels one through nine. Further, at any skill level, the computer can be weakened by opting for the easy mode. With this setting, the computer does not think on the opponent's time. In its regular operation, the Challenger uses the opponent's moving time to figure out its own strategy. If the gamer takes a couple of minutes to make his decision, the Challenger has actually had all this time to try out and discard different solutions. This is what makes the Challenger such a tough opponent. By using the easy mode, the Challenger is limited only to the time that it has been allotted for that level.

The player may turn off all beep tones and play completely soundlessly. Alternatively, he can turn off only the player's tone signals, and still hear the beeps for the computer's move.

The Challenger can be set to report forced mates against itself and resign if it sees a mate coming. A special mode is used to help in setting up problems, and another setting puts the computer into book practice mode, so the player can drill on opening lines. In regular play, the Challenger never uses weak moves. In book practice mode, the Challenger will play weak openings just so the gamer can learn the correct responses.

Naturally, the unit can be set for two humans to play, with the Challenger acting as referee and checking moves for legality.

Numerous controls are available while the game is in progress. RE resets the board to start a new game. If you start to move a piece from its square, then change your mind, the CL key clears that error and allows you to return the piece to its from square. PB sets the unit into the problem mode, and PV is used for position verification. Press this key, then the picture of the piece type. The LEDs of all the pieces of that type will light, so you can check their placement. LV is level select; the player may change levels at any time during or before a game. The TK key takes back moves. You can take back moves made by the player or the computer. The DM button displays a recommended move when it's pressed during your turn. If DM is pressed while it's Challenger's turn, it displays what it's thinking about. If Challenger changes its mind and thinks of a different move, it will flash that new move on the board. It will continue to show you what's on its mechanical mind, no matter how many times it changes its projected move. The RV key lets the player swap sides with the Computer.

If you press the RV key while Challenger is actually thinking of its move, you force it to move immediately, rather than completing the search process.

The Sensory Chess Challenger "9" is a handsome 11½-in. by 10½-in. unit that will look good on anyone's gaming table. The magnetic chess pieces store nicely in a compartment in the bottom of the board. The brilliant red LEDs make the sensory board even more attractive. Plug-in modules can add even more strength to the existing program, and if stronger chess programs are developed by Fidelity in the future, these can be used to upgrade the Challenger.

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he may fall if you don’t save him.

Bandai’s Crazy Climber is housed in
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decorated with skyscrapers and a
helicopter. The view screen is tilted to
put the play screen at the perfect
viewing angle.

The bottom third of the cabinet
holds the on/off button and two joy-
sticks. Using the joysticks makes the
climber crawl upward hand-over-
hand, or grip the window sills with
both paws either over his head or at
waist level.

A flying condor occasionally appears
at the top of the screen gliding from
left to right. This messy bird rains
droppings on the head of the hapless
climber below, who must either move
out of the way of the bird droppings or

cling tight to the window ledge with
both hands to avoid falling.

An enemy is hiding on one of the
upper floors. This antagonist peers
from a partially opened window, then
throws flower pots to dislodge the
climber. If he is struck, he’ll fall unless
he’s holding onto the windowsill with
both hands.

The windows open and close at ran-
dom. If the climber is holding a sill
when that window closes, he falls to
the ground. Similarly, he can’t advance
upward when there are no open win-
dows to grasp. The building is five
windows wide, though only three
show on the screen at once. The
climber can move sideways to un-
obstructed windows, or to avoid the
falling hazards.

The arcade scores 100 points for
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every story climbed, and gets a 1000 point bonus for making it to the top of the building. But each time the climber is hit by the flowerpot or the bird droppings, 300 points are deducted even if he doesn’t actually fall. Digital scoring rolls over at 19,000 points.

The game is addictive. The little man is distinctly humanoid, and the condor is recognizably avian. The antagonist’s shadowy face peers out of upper windows, and the fallen climbers lie on the ground at the base of the building as a grisly reminder of how many lives have been used. When three climbers fall, the game ends.

Despite the attractiveness of the unit and the cleverness of the animation of the game components, there are some real problems with Crazy Climber. Unfortunately, he just doesn’t climb very well. In the coin-op game, the climber goes up two or three floors, then remains stationary while the building appears to move past him. This unit is designed to work the same way. The climber scurries up a couple of floors, then the windows of the building flash to produce the appearance of a continued climb. The trouble is that the illusion is not very good. The windows are matrixed in only one position, so all that flashing can’t produce a feeling of movement.

The biggest problem of all is that the joystick controls are not very responsive. They simply do not always move the climber’s hands in the way the gamer wishes.

Unfortunately, the play doesn’t live up to the excellence of the device’s outer appearance. The result is a rather disappointing game that is more frustrating than fun.

**SPORTSTIME GAME WATCH**

*General Consumer Electronics*—$39.95

General Consumer Electronics has released the third in its triad of game-playing watches. These innovative time-tellers may well be the reason so many people are keeping such close tabs on the passing hours.

GCE’s first watch was GameTime, which featured four action-style games—Firing Squad, Missile Strike, Alien Assault and Blast Away. The games are unique and provide challenge to the arcader on the watch-face game field. Movement, firing and game selections are functions of the various control buttons on the watch. Arcade-Time is even more innovative than GameTime. This high-tech wonder, like its predecessor, plays four electronic games—

- HyperBlast
- Planet Raiders
- Galaxy Gunner
- Cosmic Clash

Now General Consumer Electronics has readied its third gamer’s watch,
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SportsTime. Like Arcade-Time, a mini joystick moves the players on the field for three sports games—Football, Basketball, and Soccer.

Game #1 is Football. A goalpost appears on the right side of the play field, and the player is at mid-field with the ball on the 50-yard line. After the center snap, the joystick moves the player downfield toward the goal. The running back dodges up, down, right or left to avoid tacklers trying to stop his rush. Five yards of the field are visible on the display at a time. The running back will move off the field at the right edge and reappear at the left in a new five-yard segment of field.

At the beginning of each down, the back may pass the ball to a receiver. The receiver is a triangle shape that only appears for three seconds after each down. Line the passer up in the same row as the receiver and press the pass/kick/shoot button. If the pass is complete, the ball is caught by a receiver who continues rushing toward the goal. If the running back is moved down the field or tackled before the pass, the triangular receiver disappears until after the next down.

On the fourth down, the gamer either rushes, passes or attempts a field goal. To try a field goal, place the offensive back in the second row immediately behind the line of scrimmage. Press the pass/kick/shoot button. The closer the goal, the better the chance of making a successful field goal.

Game play stops when there is no score within four downs. When you do score, the action resumes at the 50 yard line. Touchdowns score seven points and field goals tally three points. The current down and the player's position on the field (yardage) is shown in the digital display window.

This is very much a passing game. The defense is so cagey that the running back will have a tough time making it all the way down the field without being tackled. However, taking maximum advantage of the passing opportunity at the beginning of each down will gain yardage and make scoring much easier.

Basketball is the next challenge on the SportsTime watch. The basket appears on the left side of the playing field. Also on the field is the player with the ball, and a guard. The joystick moves the center down the court, and the pass/kick/shoot button attempts baskets. You must try for a basket within 24 seconds or lose the ball. If the shot is successful, the basket blinks and the score is displayed. Miss the shot, and the center must get the rebound before it goes out of bounds; otherwise, the defense man recovers the ball. Play continues until the gamer commits three fouls, defined as throwing the ball out of bounds, failure to make a rebound, or the defense man capturing the ball.

Each basket scores two points. The digital window displays a 24-second countdown of time, alternating with the score when a basket is made. This is an easy game. The defense man is fairly easy to avoid, and the ball shoots true toward the basket. Every arcader can be a Tuesday night hero as he racks up a nice score for the home team.

The final game is Soccer. Your kick appears in the middle of the field with the ball. The joystick moves the ball carrier down the field toward the goal at the left as defense men try to capture it. When the goal appears, try to move into the middle row in line with the net, then time the attempt so the goalie won't intercept the ball. Each successful goal gains one point, and the game ends when six interceptions have been completed by your computer-opponent. Soccer is harder than you might expect, but you'll feel just like Pele when you sink one in.

The animation in all three games is pretty good. Humanoid stick figures carry, dribble or kick the ball across the watch face playfields. Movement is smooth, and the tiny joystick can be operated with just the tip of a finger.

Football is the most complicated of the three games, yet all are fairly simple programs, as would be expected of such a diminutive device. There is no way, at the current state of technology, that a watch-house simulation can be as complex as larger stand-alone sports games, much less the fine simulations available for video. For this reason, I feel that SportsTime is less successful than Arcade-Time. In Arcade-Time, the games were abstractions designed specifically for the tiny format. In SportsTime, the games are, of necessity, stripped down versions.

Yet within the limitations imposed by the size restrictions, the play-action of SportsTime is good. The devices come in an attractive housing that actually does tell time, along with performing gaming functions! Each game is sufficiently entertaining to keep a player busy while the hours slide by.
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COLECOVISION: IS THIS THE 'NEXT GENERATION'?
Coleco's new senior programmable videogame system is finally in the stores. Is it really that much of an advance? The editors of Electronic Games put this new fun machine to the acid test in the December issue.

GIFTS FOR GAMERS
The holiday gift-giving season will be here almost before we know it. For the second year, EG proudly plays Santa by presenting pages of games, gadgets and accessories certain to delight any electronic arcader on your list. You don't necessarily have to spend a fortune to make a gamer happy—though you can—and we'll be featuring items priced to fit any budget.

YOU CAN BE A GAME DESIGNER
Don't just daydream about joining the ranks of the video visionaries who are creating games for computers, coin-ops, programmable videogames and standalones. This article will tell you some of the steps you should be taking today to pave the way for a game designing career tomorrow.

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

- Passport to Adventure
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