

"...COME IN, MOONSWEEPER...ARE YOU THERE?...COME IN

"...Star Command to all video game players... we have confirmed reports that U.S.S. Moonsweeper was attacked by an alien transport... Moonsweeper last sighted clearing aurora flares on way to rescue Malanium miners on Lunar Alpha Red...she lowered shields, located Alpha Red, and began final approach... we do not know if Moonsweeper was forced into a mining tower



...or was shot down heading for acceleration rings...we do know several enemy destroyers were shot down before communications went dead...proceed to nearest video store and attempt to make contact with Moonsweeper...situation critical...repeat...situation critical...over..."

MOONSWEEPER BY IMAGIC

For Atari* 2600." Soon for Atari* 5200," Intellivision, ColecoVision," VIC-20," Atari* Computers and TI-99/4A.







Volume 1, Number 12 September 1983

FEATURES

I duca Olor					 	. 10
The decline	fall and possib	le salvation	of home	video.		

VIDEO GAMES Interview: John Farrand and Don Osborne	. 22
The evolution of arcade video games at Atari's coin-op.	

Getting Physical								 										. :	3(
Video games goes aero	hic																		

SPECIAL SECTION:

Electrifying Sights		34
A Close-up look at th	ne Consumer Electronics Showcase.	

DEPARTMENTS

1	HYPERSPACE	4
	Insights into the issue at hand.	

DOUBLESPEAK										 												 7
Come words of advice	e.	 	-	 	 	-																

BLIPS	 	 	 		 									 		
	 														_	

Sunday's furnities and games, getting a grip on some video nandiwork	, waten wo	nucis, Ciuc
Med brings BASIC to its beaches; flying the friendly skies; computer "	Whiz Kids"	', and more.

COIN-OPSHOP			
A	A bi- V-11 7	- Monda Mahila	Manny and athers

A mixed dag of	arcade attractions	: Arabian, Kruii	, Zoar, Munch	wiodile, wiapi	by and others

A Silverball Time Fantasy.	
COMPUTER CORNER	 62

Games for the Ast	rocade and the VIC-20.		

SOFT	SPOT.											•					•														. 6	8
New	challenges	heat	up	the	W	anin	g	da	ys	of	f s	ur	nn	ner	: I	(ey	st	on	e	Ka	ap	er	s;	D	ra	cu	la	; ;	Sp	ace	e	

New chancinges heat up the waiting days of summer. Reystone Rapers, Dractia, Space
Dungeon; Dolphin and Fireball.

GAME EFFORTS	 / 4
Scrabble enters the electronic age.	

HARD SELL	
Getting to the core of the Apple	

RAIDERS OF THE LOST ARCADE	7
----------------------------	---

STATS	 	. 8



age 14



page 69





The world of video games seems to revolve around trade shows and conventions, whether for developments in the home or the arcades. A couple of issues back we took you down the aisles of the AOE. This spring coin-op extravaganza offered previews of what have become current hits, as well as glimpses of upcoming developments and trends such as laser disc machines and more novelty-inspired efforts including Chexx, Mazer Blazer and a wealth of pinball machines.

Now, the home market has gotten the chance to show off its wares and many of the discoveries are no less eye-opening and attention-grabbing. The Consumer Electronics Show has received overwhelming publicity in recent years due to the excitement generated by the first video game systems and the new heir apparents—personal computers. Twice a year, once in the summer in Chicago and during winter in Las Vegas, companies take the opportunity to let the world see what they've been up to.

Together, both industries seem destined to follow the pattern already created by the timing of conventions. As players we can almost set our watches to the schedule, which results in predictable peaks and valleys regarding product releases and technological advances. However, many individuals would bemoan the state of the business because of increased competition and parity equipment. By doing this, they're really losing sight of the total picture and the one salient fact, that, throughout the years, every step ahead or back, has been cyclical in nature.

So far, 1983 has proven to be no different. We are, after all, at the brink of some remarkable breakthroughs which should lead the way for the next salvo of games in arcades as well as living rooms. In this context, CES was a study in contrasts between those companies who have not yet changed with the times, and others who are on the cutting edge of the next generation of hardware and software. And beginning on page 34, you'll get a first hand look and report on the newest computers and game systems in a very special VIDEO GAMES overview.

As almost an adjunct to the movers and shakers still battling it out, there's a story that remains regarding the "faded glory" of those manufacturers who couldn't sustain the pace and commitment to move ahead. Get the facts on what happened and why on page 18 in an enlightening feature that provides some clues and answers.

Another area to keep watch for is the attempt to combine video games with physical fitness and conditioning. You'll be amazed (page 30) to see just what contraptions are being readied for general introduction, not only for personal at-home use, but also in health clubs across the country.

In addition, the Atari coin-op division has gone through any number of phases and stages since it began the arcade video game boom. What's happening currently for the Sunnyvale giant and what can we expect in the future? Find out in this issue's interview (page 22) with the two men responsible for Pole Position, Xevious, Food Fight and the newest of the new, Star Wars.

And that's not all. VG once again brings a wealth of playing tips, strategies and reviews of the latest coin-op games, home carts and computer software, not to mention an in-depth look at the powerful Apple IIe (page 74). So get ready for a jam-packed VIDEO GAMES guaranteed to give you all the video action now taking place.



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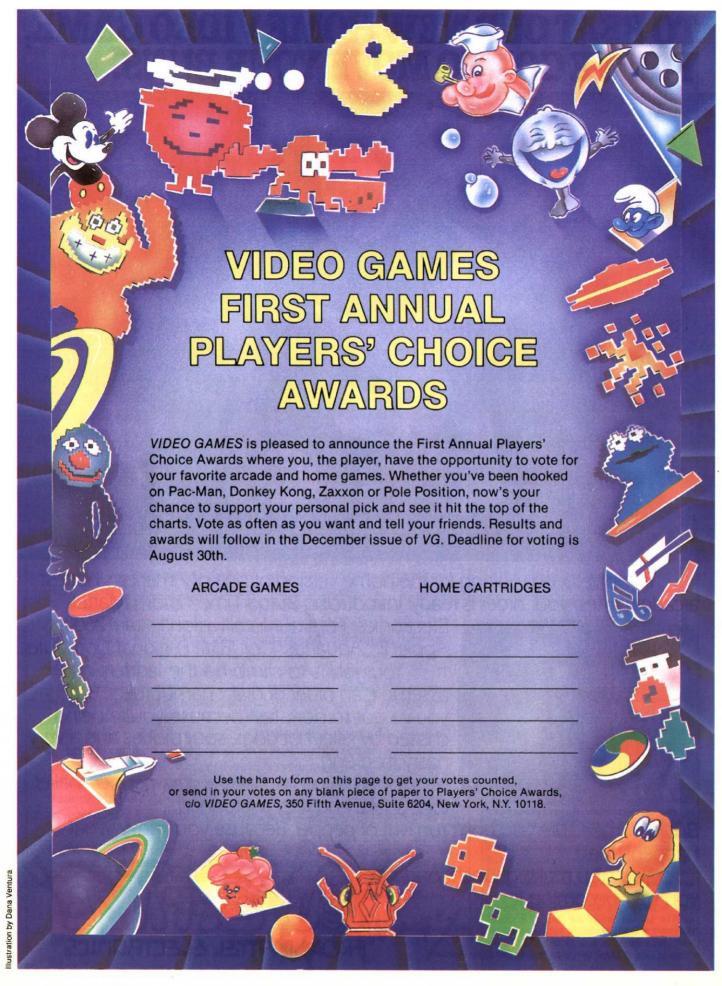
But just make sure you don't run out of pepper. Because you know what happens then.

You stop making lunch. And you start becoming it.

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The Age of Aquarius

I recently heard that Mattel will be releasing a new keyboard for its Intellivision system. I also heard that Mattel plans to introduce a personal computer called the Aquarius. When will these two items be released? What memory capacity will the Aquarius have and what type of hardware and software will be available for it?

> Donald Leitch Sarnia, Ontario, Can.

The Aquarius system, expected to sell for under \$200, should be in full national distribution by June. It includes a 49-digit keyboard unit, thermal printer, data recorder and a mini expander with hand controllers. The system features a built-in 4K capacity, but expanders will allow for a total capacity of 52K. Some Intellivision carts, including Astrosmash, Snafu, Tron Deadly Disks, Advanced Dungeons and Dragons, Football and Lock 'N' Chase, will be available in the Aquarius format. Educational programs, including Math and Mazes and Spelling and Space, will also be available, as well as home management and self-improvement programs. The Entertainment Computer System, for the Intellivision and Intellivision II. is due later this summer.-Ed.

A Systematic Display

In response to Mr. Steinmetz's letter (May issue), I would like to say that the Intellivision is not the best or even the most promising system. The best and most promising is none other than the Atari 5200. Ever since I got rid of my 2600 VCS and acquired my 5200 (sound familiar?), my friends and I have been video gaming first class, because the 5200 arcade adaptations are first-rate and the home-grown cartridges are just as good or even better. And, in the near future, Atari will release a computer keyboard, voice synthesizer, track ball and even an adaptor that plays 2600 cartridges! As far as software, Atari will soon be releasing Baseball, Tennis, Vanguard, Pole Position, Basketball, E.T., Pengo, Robotron, Jungle Hunt, Joust, Kangaroo, Dig Dug, Battle Zone, Tempest and Qix (whew!), not to mention Miner 2049er by Big Five Software. I know that anyone who reads this sneak preview will find the urge to purchase a 5200 irresistible.

> Jonathan Cox East Bangor, Pa.

Bits and Bytes

In the May issue you showed a ColecoVision Expansion Module #3 (Super Game) that used wafers of 1M bits. When will this module be released? And, when you said 1M bits, were you correct, or was it supposed to be 1M bytes? Are these wafers of the ROM type, or optically read wafers? Is Coleco going to release all future games in both formats, or just selected games?

Richard McKenna Waterbury, Ct.

The module, previewed at January's Toy Fair, might be available as early as the third quarter of this year. Yes, that's 1M bits (or 124K bytes) and the wafers are magnetically read (there's 16K RAM built into the microdrive). Finally, Coleco's present plans call for only specially selected games to be converted to wafer format.-Ed.

Holiday Greetings

I find you to be one of the best mags in town concerning gaming. Now that I have buttered you up, I have a question. On page 32 of your June issue you show a picture of a star and reindeer done in vector graphics. Is this a secret display on Tempest, Space Duel or what? Once again I commend you on your superb

> Brian Cain Chipkey, Fla.

No, this isn't a secret screen in Tempest and, obviously you aren't on Atari's Christmas card list.-Ed.

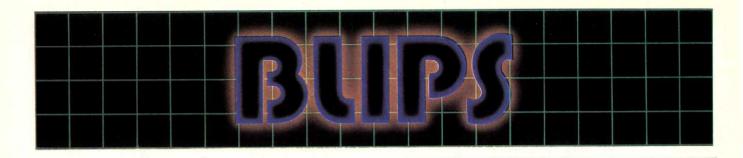
Mistaken Identity

I saw the Coleco Computer Expansion Module in your April issue. I would like to know when and where it will be available.

> Martin Gilmore Warren, Ohio

What you saw was not a computer by Coleco, but a computer manufactured by Spectravideo. An expansion model can be purchased for about \$70.00 that plays ColecoVision games. However, you weren't too far off the mark since Coleco also has plans to release their own computer expansion module before the summer is over. For more information, check the cover feature on the Consumer Electronics Show. -Ed.

Address your letters to Doublespeak care of VIDEO GAMES, 350 5th Ave., Suite 6204, New York, N.Y. 10118. Letters that require a personal reply must be accompanied by a selfaddressed, stamped envelope.



Sunday's Funnies and Games

doesn't need electricity, batteries or solar power to run. first pencil-powered, Sunday comic strip video game. Zap! is set to premiere in October, with the object being to guide Zap "the video chap" through a maze or similar challenge that incorporates video game-type graphics, characters and scoring.

through a maze to his girl pear in other strips. Software's house, while rack-

magine a video game that scored by passing over gold dots (reminiscent of Pac-Man) located throughout the Well now there's Zap!, the maze while score can also be deducted when you run into various "Zap Traps" (indicated by large gold sparks). These include a regular cast of villains such as P.I.G., a huge bruiser of a boar, or Eye Ball, an optical nemesis with legs, who delivers lines like, "I only have eye for you." Other One strip, for example, re- Zapland inhabitants, such as quires you to safely steer Zap Bigfoot (a large foot), will ap-

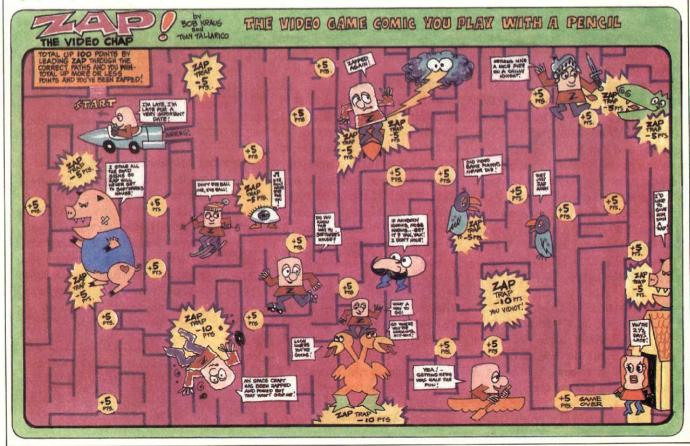
Whose idea was it to place ing up 100 points. Points are video games alongside such

Dondi and L'il Abner? Well, Zap! is the work of writer Bob Kraus, who doesn't even play the games, and artist Tony Tallarico, who does play them, although he admits, not very well. Kraus, a publisher and author of children's books, was always "fascinated by the graphics of video games" and wanted to bring this excitement into some other medium. He felt or of the Sunday comics section made it an ideal medium. He is "striving to get the video ahead to bigger plans. If the

American institutions as game look" into the strip.

Tallarico, whose background is primarily in children's activity books, says Zap! is "something that would reflect current trends" while moving into "an area that had never been touched" in comic strips. Kraus is hoping some of the characters' lines could become household phrases, such as those from the old-time classics.

Zap! will be distributed by the large panels and vivid col- the McNaught Syndicate to 150 newspapers initially, but its creators can't help looking



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strip is successful it will based comics. become a daily feature (the same way Flash Gordon cold war of the 1940's, and grew, says Kraus), with merchandising spinoffs as well. A Zap! video game is also being considered and its creators are hoping the strip will start a video-crazed 80's. trend of other video game-

If L'il Abner reflected the Doonesbury mirrored the turbulent late 60's-early 70's, then Zap! seems to be the perfect comic strip for today's

-Michael Fine

Control Center

Are you one of those game players who practices constantly, has memorized all the how-to-beat-the-games books, amazes friends with astronomically high scores, but always turns off the home game system with the nagging thought that you can do better? Well, now some new controllers by Zircon International may help you reach your goal.

(\$29.95), compatible with the Atari VCS, ColecoVision, TI and Commodore systems, gives greater player control by letting the joystick adapt to the type of game being played. The Maze Control setting eliminates any diagonal movements by your "man" (be he alien, car, adventuresome earthling or other creature). That should help you stay on course in maze games, letting you move faster and rack up more points. The Speed Control allows you to slow the rate of movement relative to that of the joystick, so you can more accurately position objects when you need to. This facilitates such maneuvers as lining up your missiles to blow up the spaceship in Phoenix, or steering your car between obstacles in racing games. The Autofire mode reduces fatigue and increases scoring by giving machinegun-type rapid fire. The Z-Stick's versatility

is enhanced by its suitability for both right- and lefthanded players.

If Centipede is the game to beat for you, Zircon's Track-Ball (under \$50) gives you the quick response of arcade-style controllers (a full 360 degrees) that you may need. With this due in August, you also get Dual Fire buttons on a recessed ledge in front of the Track-Ball, which keeps them out of the way of your other hand and lets right- and lefthanded players use the pro-The chrome-plated Z-stick ducts just as easily. The buttons can be used interchangeably or as two independent controls on some games. You can also use an Autofire feature when it suits the game you're playing.

> To make it easier to use these and other controllers, Zircon is coming out with two different adapters (about \$9.95 each). The Port Expander lets you use any Ataricompatible controller with your ColecoVision, so you're not limited to the one on the keypad. This "Y"-shaped adapter plugs into a port to give you an additional connector (one on each side of the "Y"). It also lets you keep two joysticks, a joystick and track ball or any other controller combination attached simultaneously, providing additional convenience as well as saving system wear and tear when going from one game to another. A similar adapter is also made for the TI 99/4A. -Michael Fine

Getting a Grip on Some Video Handiwork

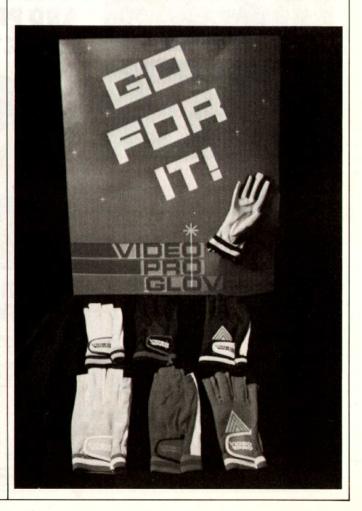
idea when she noticed her and sky blue/white. son's hand irritation which injuries.

sizes, either small, medium or Miami. large, and features a soft

To add to the growing market leather palm made of white of video game accessories, Cabretta sheepskin with a comes the Video Pro Glove. stretchy nylon back and open For status, as well as func- finger tips. The wrist band is tion, the glove helps combat elastic with a velcro closure, the common ailments known and is available in seven colto video game enthusiasts— ors with contrasting trim: such as strains, blisters and black/silver; red/white; royal calluses. Its designer, Carmel blue/white; yellow/navy; Delaney, came up with the brown/yellow; beige/brown;

The design of the glove was apparently caused by a reportedly provides the player home video game joystick. To with protection but remains research her idea, Delaney hit flexible and sensitive for play. the arcades to observe the It's available for left-andintensity with which the video right-handers alike and retails games were played and the for about \$6.95. Look for the resulting palm irritations and glove in your local 7-11 stores and at specialty stores in New The glove comes in three Orleans, New York and

-L.M.



What's In Store

magine a store where 800 38-stores around the country square feet of space are filled are also known by the name with nothing but home computer and game system harda wide assortment of nonelectronic board and strategy games. A place where customers are encouraged to buying and where the sales

not in a land of Oz, but rather The Electronic Boutique. In business for five years, the Games 'N' Gadgets.

The company's policy on ware and software, as well as choosing game software is based on testing before buying, "We don't want to pick up games which might be duplicates of others," explains have a hand at any video Bruce Nager, vice president game they're thinking about and general manager. "We want to pick the best of each personnel are equipped to type of game to conserve shelf answer any questions you space." In once instance, the may have about the industry's company evaluated Atari's latest offerings. Well, you're E.T. cartridge and decided it



wasn't simple enough for the target audience. Hence, they purchased only a conservative amount. "In the case of Pitfall," says Nager, "the game's popularity at Christmas defied any type of planning."

In Charge of the Situation

f your playing habits include It's for use with any products games that require batteries, then you know the awful feeling when the screen begins to dim and you've already emptied all the radios and recorders in the house of power. Well, now Coleco's come up with a handy solution to the problem-a combination battery eliminator/AC adaptor called Perma Power (\$9.95).

that run on nine-volt or "C" cell batteries (such as Coleco's Expansion Module II, for Turbo, and the soon-to-bereleased ColecoVision Trackball as well as with Coleco's self-contained game units) and fits any product with a standard AC jack, or in conjunction with adaptor plugs.

-L.M.



Pocket-Size Adventures

PM Industries is offering six new hand-held computer

adventure. Two of the games, (\$35.95 each). All six have anywhere.

Shuttle Voyage (\$37.95) and clock / watch functions and Thief in the Garden (\$39.95) measure approximately 41/4" feature calculator functions wide by 3" high by 1/2" thick. in addition to game play. The The screens are powered by other four titles are Space two 1.5 volt penlight batgames featuring themes of Rescue, Space Mission, teries, which should make outer space, sports and high Spider, and Goalkeeper these efforts easy-to-take -L.M.



About one third of the Boutique's chains carry home computers and software, but at the core of the entire operation is an IBM System 38 computer. Information about each store's daily sales is fed into the computer via IBM 5265 terminals. Weekly reports show which stores are in need of products and if they are stored at the warehouse. Next, the computer looks at the week's sales as well as those for the month to date and compares the totals against the figures for the same period a year ago. Constant monitoring determines the correct mix of products and keeps inventory from piling up.

The Boutique has introduced a video game club which entitles its 24,000 members to a club card and newsletter. The newsletter, which is published periodically, contains information of new products and their availability, bonus coupons and a scratch card which reveals a number that could mean a prize if it matches that number posted in the store.

-Melinda Glass

A Helping Hand

W hat? Teaching typing with the help of a video game? Well that's how it's done at Northwest Junior High School.

When teacher Jean Mether made room in her classroom for three computers to accompany 35 manual typewriters the video game revolution hit Coralville, Iowa in a new way. The idea of bringing a video game to aid typing lessons was a venture favored by both school and community officials and, it seems, by students, as well. Since the first Lightning Software MasterType disk was introduced destroy a missile, the student into the school by media must type in the correct word. specialist Mary Jo Langhours per school day.

missiles, meteors, and planet Lexicon. To shoot and three weeks and then each



According to Mether, the horne, students have been us- value of the game "is that to ing the video game constant- score well, one must utilize ly. "I'm beginning to worry with speed and accuracy the that our disk may wear out exact fingering and typing soon," reports Langhorne. technique. This results in bet-Since October '82 it has been ter typing and spelling skills." in use approximately six The game works to help the student gain better typing The game plot, which fol- proficiency through repetilows the basic shoot-'em-up tion. No matter how long it scenario, features a wizard takes, the word will continue whose job is to shoot laser to appear on the screen until beams, which destroy the student types it correctly.

In Mether's beginning typsatellites that are launched by ing classes of 30 students, she "enemy words" from the first teaches the keyboard for

faster students.

game enhance typing skills, it P.O. Box 11725, Palo Alto, also allows the opportunity Calif. 94036 or phone: (415) for students to have hands-on 327-3287. experience in the fundamentals of computers. Another unexpected advantage of the video game is that it encourages students to help one another. "This contact is very important at the age of 12 and 13," Mether says. "Those with personal computers at home or with video game expertise will lean over the terminal and give a helping hand."

MasterType was developed by Bruce Zweig, president and founder of Lightning Software, and is available in formats for the Atari 400/ 800, the Apple II and the IBM personal computer. The

pupil moves on at his indivi- package contains an instrucdual speed. After the student tion manual for running the knows the basic keyboard, program, 17 preprogrammed Mether introduces the video lessons, directions for custogame to groups of five or six mization, game tips, and and teaches the basics of fingercharts for the respective working on the computer. keyboards. The program is The game at this point is ideal written in combination as a teaching tool because it ASSEMBLER and BASIC provides incentives for the languages for maximum slow learner and a reward for speed. The suggested retail price is \$40. For more details Not only does the video write to: Lightning Software, -Linda Moran

Watch Words



Okay, you've been looking around for some small video game wonders and the tabletops are too big. So are the handhelds. Well, the time may now be right with Nelsonic Industries' newest game watches. Not only can you tell the hours and minutes, but also wear Frogger and Q*bert on your wrist.

-Roger C. Sharpe



"The name's Bentley Bear."
And I'm busting loose!"



New from Atari coin video games.

Club Med **Brings BASIC** to Its **Beaches**

Among chic vacationers Club Med is well-known as a reasonably-priced haven to abandon civilization. But from June 11 through September 10 its Punta Cana vacation village in the Dominican Republic is offering Atari's vision of things to come: introductory programming workshops on the company's 1200XL and 800 models, and computerized aids to the resort's usually natural complement of fun and games.

For more than 20 years an international staff (called "gentle organizers") opened its arms to resorters at any one of Club Med's 90 locales, urging them to feel free. Equatorial climates, Continental cuisine served up buffet-style, and one-price-up-front, no tipping policies have allowed singles, couples and families to go native by the week.

"Club Med provides a time and place where there's no pressure," explains Linda Gordon, Atari vice president for special events. "People will find that the Club setting is a perfectly relaxed place to



be introduced to computers for their futures."

Both adult "gentle members" and pre-teen "mini vacationers" will be instructed by GOs who have been trained by Atari to teach BASIC computer language and encourage the creation of new types of software as well as using Atari programming which involves arts and crafts and sports. More than a dozen mobile computer systems will be situated by the Punta Cana tennis courts ("To match players by age,

sex and ability for tournawhich is an important event ment play," says Gordon), near the sailing pier ("We have a simulation game called Microsailing") and, of course, in a game room. Atari has imported some 70 machines to the island of Hispanola, and Club Med will be inviting Dominican children into the Club compound to be introduced to the 64K 1200XLs, which could well change their lives.

> "Club Med is the perfect. informal learning environment," Gordon continues, "and, of course, we hope this

joint project generates new computer users, and some beginning programmers. Of course, since Atari programs are no better than their ability to relate to their users, there might be bugs to flush out during the project, depending on the needs and wants of the 'gentle members.' But both Atari and Club Med believe people should be freer in the future - and if you can't use computers, you won't be free." Bring your beach towel - but don't imagine you're leaving civilization completely behind.—Howard Mandel

Flying the Friendly Skies

For game players, or travelers, with flights of fancy, Canadian Pacific Airlines has pioneered what may well become a common offering in the future. Introduced in June for a one month trial period, CP Air featured in-flight video games for passenger rental on trips between Vancouver, B.C. and Amsterdam. The game sets, which fit over the from the seat backs, featured

boxing, Donkey Kong, dinner trays that fold out Snoopy Tennis and Mickey Mouse at a rental charge of video Black Jack, baseball, \$3.50 for the nine hour flight.

Two different products were tested, Airplay from the Altus Corporation, located in San Hose, Calif., and Air Video by Thorek, Scott and Partners of Toronto, Canada. If the response is strong enough to this initial test, we could find ourselves with permanent sets already built into the seat trays. Whatever happens, however, it's a safe bet that video, even in hand-held models, is ready to go up, up and away.

-Roger C. Sharpe

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Computer Whiz TV

Take a talking computer, four high school freshmen who are computer fanatics, present them with a mystery, and what do you have? Why Whiz Kids of course, a onehour adventure series, produced by Universal Television, which premieres this fall on CBS. The show deals with how Richie Adler (played by Matthew Laborteaux), Hamilton Parker (Todd Porter), Jeremy Saldino (Jeffrey Jacquet), and Alice Tucker (Andrea Elson) use computers to solve mysteries they've encountered because of their natural inquisitiveness and adventurous spirit. However, they have an unfair advantage over most mystery solvers because of the unofficial leader of the group, hi-tech genius Richie Adler and his creation known as Ralf.

Ralf is a talking computer which has the capability of being able to hook up to any other computer in the country. These four sleuths are helped along by Richie's younger sister, Cheryl





(Melanie Gaffin) and Gallagher (Michael Horton) a young producer of Whiz Kids, newspaper reporter.

Phil DeGuere, executive created the concept of the

show through his long-standing fascination with computers. First introduced to them while attending Stanford University, DeGuere went on to say, "I haven't been able to stay away from computers since then. They're addictive and in my work, they've become an extension of my memory and skills, while allowing me to devote most of my energies to the creative side of production."

-Melinda Glass

Three for the Money

We've all imagined how wonderful it would be to really live the fantasies we experience in the world of video games. Well, recent Activision promotions for three new game cartridges will give a few lucky gamers the chance to come close.

While you're a cop picking up bags of money in Keystone Kapers, a rub-and-win promo could win you a real \$5,000 savings bond. Or how about a \$5,000 sweepstakes to sweeten the pot of being a bounty hunter recovering

stolen cash in Happy Trails? And, if the spills and thrills of Enduro aren't enough to curb your racing desire, what about the possibility of winning your own Datsun 280ZX Pace Car or 200 SX hatchback SL in a drawing?

Each contest features other prizes as well, all based on elements in the games. Keystone Kapers, for example, pits an old-time policeman against an elusive robber who must be caught without running into old-fashioned radios, or being hit by toy planes and bouncing beach balls. If that weren't enough there are also sacks of money

to pick up along the way. Meanwhile, the promotion involves a card available with the game (the first rub-andwin game card in the history of video games) on which you can rub paint off squares to reveal such possible prizes as savings bonds, AM/FM portable radios, engine-powered model airplanes, and beach balls. Even if you don't win, you still do since everyone can gain a rebate on their next specific Activision title.

The Happy Trails Bounty Hunter Sweepstakes offers winners \$100, \$1,000, or \$5,000 cash rewards, comparable to those the bounty

hunter picks up as he chases Black Bart, the desperado, in this western theme game.

And the Enduro (for the Atari 2600) Race-For-Riches Sweepstakes offers trips to the Caesar's Palace Grand Prix in Las Vegas (in October), radio-controlled cars, Activision Grand Prix video game cartridges, and racing posters, as well as the two cars. Activision is also sponsoring the 1983 Nissan Racing Teams to further promote its racing game. The cars and clothing of the team and pit crew will all display the Activision and Enduro logos.

-Michael Fine

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The Decline, Fall and Possible Salvation of Home Video

By Suzan D. Prince

utting cereal into boxes wasn't exactly going to catapult the century-old Quaker Oats Co. into the high-technology spotlight. So in April 1982, after a little shopping around, the packaged goods organization acquired U.S. Games, a small startup firm based in Santa Clara, Calif. Quaker's plan was to add the video game company to its long-stagnant Fisher-Price Toys division. Known for its infant and pre-school play things, the division had fallen victim to the declining birthrate and was more or less locked into a fourth-quarter seasonal sales cycle of Christmas gift giving.

The parent company immediately pumped capital and management expertise into its new property, a four-year-old private venture begun by president Donald Yu, which marketed only hand-held electronic sports games through 1981. However, in January 1982, U.S. Games retreated from that dwindling marketplace to concentrate solely in video game software. And, subsequently, Quaker Oats hoped U.S. Games could give Fisher-Price the technological shot in the arm it so desperately needed.

"The acquisition of U.S. Games was made to explore the possible fit of video game technology with the Fisher-Price toy business," explained William Smithburg, Quaker's president and chief executive officer. "Our long-term intent was to strengthen distribution for both Fisher-Price and U.S. Games."

Today, less than a year and a half later, U.S. Games is adrift in lim-

bo—spun off and spurned by its initial suitor. Its principles and a huge, apparently unwanted inventory, which includes such retail bombs as Squeeze Box, Commando Raid, Towering Inferno and Eggomania, are all that remain.

Announcing the decision to discontinue operations last April, Smithburg said. "We did not foresee the rapid oversaturation in the market and have decided that without making major investments, continuing the business was not viable." The parent company took a \$1.9 million write-off on the subsidiary, which had sales of \$6 million in calendar year 1982. At its lowest point last spring, U.S. Games cartridges were being discounted by stores—some selling for as little as five dollars.

What went wrong? Some observers blame the tough business climate as well as Quaker Oats, which analysts believe lost interest in the company too quickly, withdrawing capital and other support as soon as the marketplace began to oversupply. "They didn't give them a chance to get going," said one analyst. Smith conceded, "Following acquisition, the market dynamics changed significantly—from that of retail demand for cartridges outpacing supply to saturation of the market. Sales were very disappointing."

Others saw the acquisition merely as Quaker's attempt to make its mark fast in a rapidly growing category related only indirectly to its own toy business. Indeed, General Mills, the cereal company's fierce competitor, owned Parker Brothers, which could seemingly do no wrong in a rough-and-tumble environment. But the thriving Parker Brothers has what U.S. Games obviously didn't—an old, established reputation for producing quality family games, and strong, licensed titles. All this plus the time and persistence to assemble the perfect match between character adaptation and video technology spells a success story.

"Parker Brothers has always relied on strong character adaptations," commented Bob Wanke, director of marketing. "But we look at formats and scenarios carefully to make sure that the license we get for a video game is entirely appropriate to the cartridge concept. We don't do force-fits."

In a market dominated by violent shooting cartridges that appealed to the prime buyers, teenage boys, Jack Dews, executive vice president of U.S. Games also fancied his company as "family-oriented" and eventually hoped to follow in Parker Brothers' footsteps as a wholesome, license name producer. "U.S. Games was reaching for those members of the home video game market that had been virtually ignored by most cartridge manufacturers—families," he said recently. "We felt our games offered something unique to the home video game market."

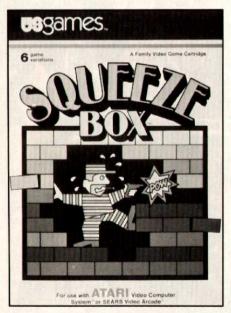
Customers, however, found nothing particularly unique in U.S. Games' cartridges. Store owners related that users in general, and even young children to whom the games were targeted, found



game play rather bland and nondescript, and when the final batch of titles was previewed last January at the Consumer Electronics Show in Las Vegas, at least one major buyer remarked that the designers were stretching too far for customers. Commented one manager, "Eggomania is cute but it goes nowhere." An official of Crazy Eddie, a large New York discounter, reflected, "I think they're getting a little bit desperate."

Toward the end, U.S. Games did obtain the rights to one promising license, the Pink Panther, although designers never got the opportunity to develop it. Andy Bergman, a 10-year veteran of Fisher-Price who was appointed U.S. Games manager of product design following the acquisition, expressed regret at the missed chance. "I was looking forward to doing Panther," said the manager, who had contributed nine titles to the firm's original mix, including Eggomania and Gopher. "It would have been a very challenging game."

The Data Age Saga is just as sad, but for different reasons. Data Age began life in April 1982, with five mediocre original titles, but its big chance to make good came last fall when it sewed up the license to the smash rock band Journey. Big, big promotional tie-in plans to cap-



ture the huge chunk of teenage rock fans were laid at the January CES. Journey was to serve as the centerpiece for Data Age's coming prosperity: Concert tours in 50 U.S. cities with accompanying contests, giveaways, and in-store hoopla; the world's first home to coin-op con-

version deal with Bally/Midway, and a \$4.5 million TV advertising campaign to hype it all. But the Journey campaign barely got off the ground when Data Age filed for bankruptcy in a San Fran-



cisco court just about the time U.S. Games was getting axed.

What happened?

Even before accomplishing the Journey coup—no mean feat—out-siders panned Data Age's marketing philosophy. "Totally askew," was how one source put it. Bob Rice, Data Age vice president of marketing, hinted at the problem himself in a trade magazine interview shortly before the Journey deal was announced. "It doesn't matter what kind of game you have as long as you market the hell out of it," he said. "You've got to make the kids ask for your game above all others."

The company's main thrust then was to create enough peer pressure so that not buying a Data Age cartridge was tantamount to, say, being the only one in your school who didn't wear Pumas. As it turned out, of course, Data Age was doing it all backwards. During a critically competitive time when only playability and game challenge could ensure any measure of success, the firm did an about-face and churned out marketing materials instead. For the first wave of ordinary action titles, for example, it supplied retailers and their customers with all manner of freebies and promotions, including a mini-record called Mindscape. Written by a sci-fi author, Mindscape contained sound effects that were supposed to create frenzied demand in every store for the product by teens—Data Age's prime buyers. In Data Age's first full-page trade ad to retailers, the company hardly talked about its games, but chose to emphasize promotional support instead. Here's an excerpt:

"Data Age understands video games. We know they mean total involvement in a world of fast action and tingling suspense. And we wanted to find a way to bring that excitement to customers before they actually bought our games...We'll be supporting our record and games with exciting promotions aimed at teenagers, your prime customer for video games. We'll be advertising on teenagers' favorite medium: radio. We plan to saturate the best of contemporary music stations around the country, telling every major

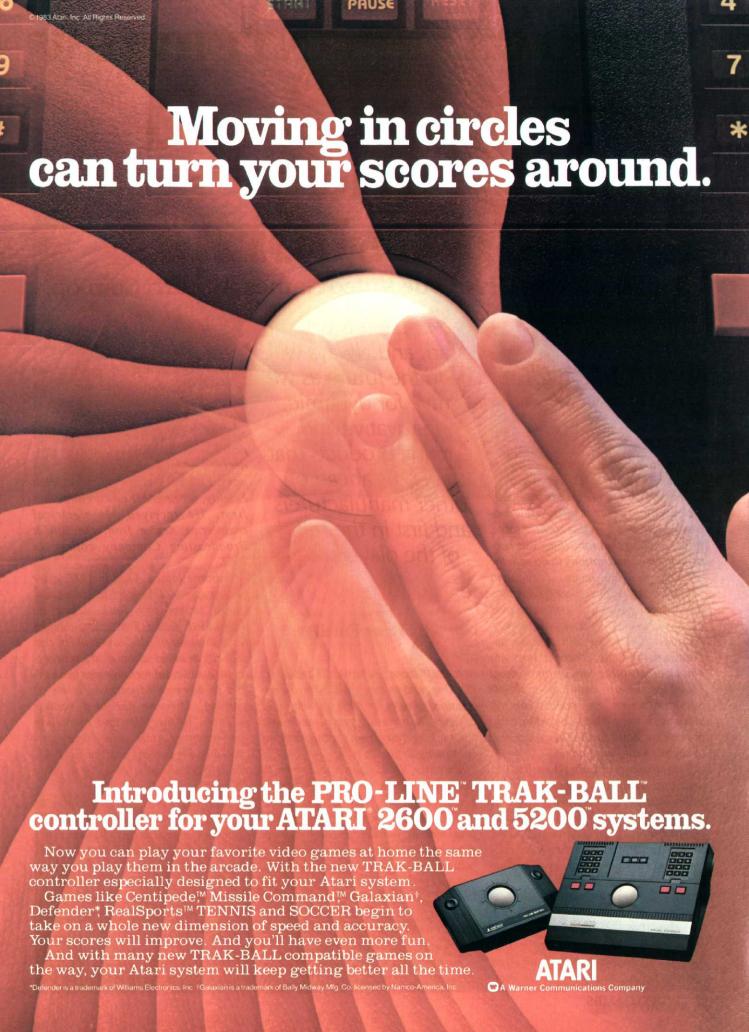


market about Data Age video games...."

A telling clue about the company's attitude toward its designers is offered by Walter Williams, creator of the Mr. Bill episodes on Saturday Night Live, who was in the midst of adapting his character for the video game screen for Data Age when the company took the plunge. "Whenever I called the company's headquarters, I always got through to the designers," he says, "but the marketing people never returned my calls. They were always in 'meetings.'"

Cruel reality soon set in as Data Age discovered it couldn't market its own hype, and its design efforts couldn't match its marketing talents. The initial

(Continued on page 77)



VIDEO GAMES INTERVIEW

John Farrand Don Osborne

The Evolution Of Arcade Video Games At Atari Coin-op

can remember the first time I played a video game. It was during my tenure at Cash Box Magazine as the album chart director. Ed Adlum Cash Box's coin-machine editor and now the publisher of RePlay Magazine took me to lunch at a little restaurant in New York City. During the course of our meal, I couldn't help but continually look over into a corner where a few people had huddled over this cocktail table. It was obvious that something was happening which had nothing to do with the offerings on the menu. I thought, 'What's going on over there?' Ed, seeing the curiousity that was written all over my face chuckled. 'Wanna play Pong?,' he said. "Okay," I said and we approached the table. There it was, not pinball or any other coin-op amusement I had grown up knowing-a simple television screen and paddle control, along with some black and white blips moving back and forth. The experience, to say the least, was unique.

This all occurred during the early 70's, and while many may dispute the origin of the game, or the inventor of this new phenomenon, it's generally credited to Nolan Bushnell, the founder of Atari. Since Atari's inception they have constantly been referred to as the game players' company. Not a manufacturer that just pushes out products to please operators or distributors, but truly a company that cares about the players' perspective. It's been a philosophy that has paid off handsomely for both Atari and the player, with Pong, Pole Posi-

"... so it is with Atari, and always will be in the future as we strive for dynamic, innovative and exciting products that keep us ahead of other manufacturers and first in the minds of the players . . . "

By Beau Eurell

tion, Battlezone, Asteroids, Centipede, Dig Dug, and so many others having entertained players for such a long period of time. The philosophy revolves around "not taking away from the business but continuing to give to it."

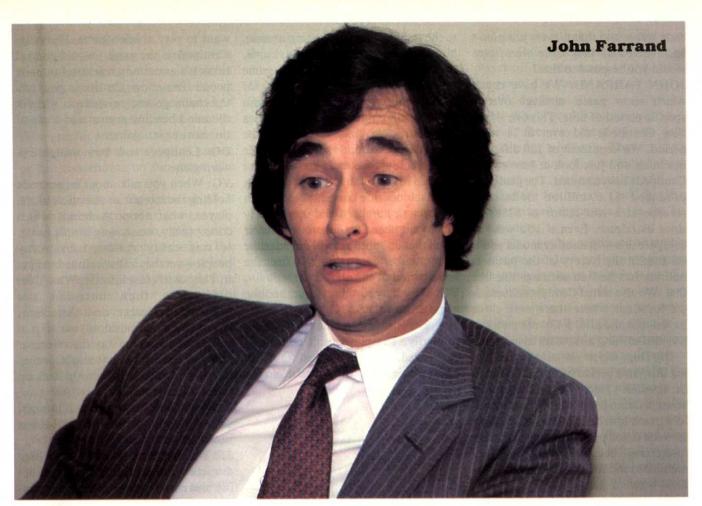
Recently, Video Games journeyed to Sunnyvale to visit with John Farrand, president of the Atari coin-operated division, and Don Osborne, vicepresident of marketing for the same division, to learn what's going on behind the doors of this industry giant, not only in regard to the future of Atari, but also the future of the arcade games. Both men have a diversified background which more than qualifies them for their respective positions.

Group which is based in England, As president of Music Hire, one of the largest private operating companies in the world, Farrand was responsible for all aspects of manufacturing and distribution of their amusement products. Previous to joining the company, Farrand was an engineer at High Fidelity, an England based electronics firm. He received his electrical engineering degree from the British Broadcasting Company college in

Osborne joined Atari in 1977, after having spent 121/2 years in the educational technology field where he distributed media instruction devices for a division of McGraw-Hill. In this capacity he aided school districts to better utilize current technologies in an effort to advance educational levels of learning. Osborne has held various positions in the sales and marketing department of Atari, before being promoted to his current position in 1982. He is a graduate of San Jose State University.

Together, both men offer an interesting perspective of the coin-op business-where it's been and where it's going. At a point in time when dramatic change is just around the corner, Atari is ready to take players to newer adventures and challenges which may well redefine what we think of regarding arcade games.

Farrand, prior to joining Atari in VIDEO GAMES: We've heard so 1982, spent 16 years at the Music Hire much lately regarding the slump of ar-





Photos by Clarissa

cade games and that players just aren't as involved as they once were, how would you respond to that?

JOHN FARRAND: We have charts which show game earnings over a specific period of time. This one shows how Centipede did over a 74 week period. We kept track of 120 different machines and just look at how strong Centipede has remained. The game has produced \$1.6 million dollars of revenue at a cost factor of \$251,000 since its release. Even if you were to compare this with another model you'll see that in the history of the business nothing has had an earnings life like that. We also tested Centipede in multiple locations where there were three models out and after a 43 week period it was still earning a substantial amount.

Dig Dug, which was also tested during this same period of time, had fallen in revenue. Here's a real surprise. Joust, a damn good game, had declined to a much lower earning level during a 19 week tested period. All of this is very interesting because many industry members tend to look at a narrow window when a game first comes out, rather than putting in perspective what it's really going to be like in terms of earning power over the product life cycle.

VG: But does the industry as a whole look at it this way or do you think it's only the operators who look for immediate validation of a new release?

JF: Don would disagree, but I don't think any one sector is to blame. In fact, at Atari we've been working on some fairly new methods of analyzing games. Starting from the prototype stage until they're released in the field. We've built up a phenomenal data base over the last two years and from it we're beginning to learn some valuable characteristics. In the first eight weeks we can project what the earnings curve, over a year or two, is going to look like.

VG: But isn't that out in test locations? Also, are you referring to prototype machines or games that have been released?

DON OSBORNE: Well, it's not just test locations nor test games.

JF: In these locations and with these tests we do have a combination. We'll start off with a prototype game and begin to get our indications from that. When we do larger sample tests, prior

to the decision about releasing a game. it is on the basis of that earnings curve, that we can predict how good the game is going to be-not in its first couple of weeks, but we can do a projection which at this point in time is probably a year out. We have evolved some methodology around that, because we did all these studies and I guess we were shocked to realize the vast difference in the machines' life curves. Some games will become number 1 and very quickly fall to number 20. Others will never reach the top spot, but will only decline from number 4 to number 10 over the same period of time.

VG: Why do you think a number one game drops so quickly?

JF: Shallow game play, I think, primarily. The player isn't constantly challenged. Maybe it's just that the game's unique feature, once mastered

"... we've built up a phenomenal data base over the last two years and from it we're beginning to learn some valuable characteristics, we can project what the earnings curve will be over a vear..."

or experienced, loses its appeal. It's interesting to note that Centipede was a game with a very broad appeal. We're not absolutely positive of all the we're doing more research on it. Centipede and Pac-Man-were, without a doubt, the most popular games among all ages and sexes, and truly brought in female players in greater number than ever before.

VG: That's true. I know a lady who is constantly playing Centipede.

JF: I don't know about you, but when I'm playing video games, either here at the office or at an arcade and maybe it's as challenging as Xevious, then I can play for about 15 to 20 minutes. With some other similar games which require

want to play a video game. Honestly, Centipede is the game I would go to. I think it's a common reaction for many people. Somehow, Centipede gives you the challenge and enjoyment, without the mind bending pressure of some of the more expert games.

DO: Centipede is a very straightforward game.

VG: When you talk about a game not holding the interest or attention of the player, what about Asteroids which conceptually, was a very simple game. It was easily mastered by many people—yet they still continued to play it. They didn't lose interest. What's the difference then between the sophisticated game and Asteroids, where you could position your ship in one particular area, stay there forever and not have to worry about getting blown up, while being able to rack up tremendous scores?

DO: It didn't have variety, though, since the ensuring level of Asteroids was just more Asteroids!

JF: Yes, but there was still something attractive and appealing about just being there and splitting the rocks up. There was something fulfilling, and that's also true for Centipede.

DO: I think Centipede has that feature, but it also has something else, which isn't particularly sophisticated. The game, Centipede, provides variety, but not the type that might be considered complex, or one that puts up barriers to player comprehension. We had games such as Battlezone which was fairly sophisticated. It required a great amount of comprehension on the part of the player because of the special relaelements that exist in Centipede, but tionship that was involved. You had to be cautious in a game where you could be shot from behind. You could be killed by something you couldn't even see since you had to play 360 degrees around-even outside the cabinet and not with what was just represented on the screen. The game really created first person play where there was a need to bring imagination into the action taking place. I think it was as a result of this perspective that the game gained such a positive response in such areas as Berkeley and other college universities. I can remember Battlezone making a great deal of skill and coordination, \$1,200 a week down at Georgia Tech. there may be a time when I'll think. Yet it wasn't a game that appealed to 'Well, I've had enough of this' but I still the masses—only a very specific, narrow segment followed it.

VG: Since Battlezone required a great amount of thinking and imagination on the part of the player, instead of just having to push a joystick around, it really was a game for a smaller demographic area. Would you consider making more of these types of games, or just concentrate on fun games like Centipede?

DO: Well, you see, Centipede is both. It can be a thinking persons' game as well. I've watched players who have a variety of strategies and techniques, which I've never even dreamt of. I saw a guy back in Iowa who had developed a technique for filling the entire screen with mushrooms leaving just one open channel in the center. That was the only place that the Centipede could now, eventually, come down. He just positioned himself underneath that area and blasted away at them. However, getting to the point of establishing the entire playfield with mushrooms took a great deal of skill and imagination.

JF: To try and answer your question, I'd say this. We're involved with game design on a number of fronts. We want to be able to expand the player base by producing some machines that are aimed at a particular market sector, whether it be skilled games, those oriented to a predominately female audience, or product with a more general appeal. What we do know is this: We can't set out to produce a Centipede. However, we can learn from designing games for those sectors that we understand a bit more, the various components which created a Centipede. I hope so, since I feel it's so important for this business in general to understand the needs of the audiences we're trying to reach. Remember, the more challenging, technically, the game is, the more you're going to be able, in time, to produce a much broader variety of games. Using that technology, I think we'll be able to continue to excite players. We, here at Atari, are prepared to put money into research and development even if the initial results doesn't bring back instantaneous response. At times, you have to accept smaller developments since they may lead to future design directions. Battlezone taught us a tremendous amount about very complex algorithms, and the effort involved in representing a three

dimensional drawing or object.

DO: It also taught us a great deal about simulation techniques.

JF: When players encounter our new Star Wars game, it utilizes very unique and complex algorithms to produce the three dimensional effect.

DO: Not stereoptic images but three dimensional ones which differ from what companies such as Sega have done.

JF: It's a vector graphic game with isometric drawings, you really can fly through. The controller is just like an aircraft joystick, capable of moving in all directions. You can fly down, up or sideways, just as you would with an aircraft.

VG: Will this game also attack from behind?

JF/DO: No.

JF: We don't think that's a particularly

"...we're prepared to put money into research and development even if the initial results don't bring back instantaneous response, sometimes you have to accept smaller developments since they may lead to future design directions..."

good feature to build into a game. We found out that one thing the player doesn't want is to be, or feel, cheated. I think many people thought that being killed from behind by something you couldn't see was unfair.

DO: It's unfair for the players who aren't prepared, who don't have those kinds of skills.

VG: Honestly, I still can't play that game. I'm always getting blown up.

DO: You've got to use your radar with that game.

JF: I think the real key is this communications between the player and what's going on on the screen. We tend to call it interaction.

VG: How do you find that out from the player? You go throught research and development, make a prototype, and then send it out to a test location which Atari is probably familiar and happy

with because it has a high volume of traffic. But what about just pulling a player off the street and letting him at the game? Do you do that?

JF: We do, but . . .

DO: What you've described is, I believe, the way most of our competitors test products. That isn't the way we test ours. The procedures Atari uses are very, very sophisticated.

JF: But it's fair to say, Don, that they have changed dramatically in the last six months.

DO: Yes, they've continued to evolve, and we do undertake focusing groups. We conduct player interviews on site, with engineers and with research people. We have a performance rating system where all the facts from interviews with players is collected and applied against a percentage scale we have been using since before Asteroids. This scale gives us a relative idea as to the quality of the product. We can then analyze all the data and set a pretty good idea of whether it's a good game or not. What it doesn't afford us, however, is the opportunity to know what the longevity will be. We have changed some things in research lately in regard to some tracking procedures in geographical locations all over the United States. These procedures begin before the production release and continue on through the initial production to 20 weeks. That really gives us an idea of a product's potential longevity and we continue to track it for 18 to 20

JF: You can start to draw models of the various characteristics of the game relative to the people who are playing them.

DO: Our research is significantly more sophisticated than most people realize. VG: I'll use the Star Wars game as an example, even though I haven't seen it yet. Let's suppose that Star Wars featured a trak-ball and, after having it out on location for testing, 85 percent of the people you speak to say they'd rather have a joystick control. Obviously, your production machinery is already geared up. So what do you do? Do you change it?

JF: We'd change it.

DO: Absolutely. But that's one of the things we'd generally catch in our focus groups.

JF: We do four focus groups where we

have 40 people involved.

DO: We can even have more, but with any product, what we'll do for focus grouping is identify the demographics we think the game appeals to. If it's a game we feel has wide appeal, we bring in three different age groups of both sexes. So we then have six different groups that we'll run through over, a two-day period. That gives us 16 hours worth of focus grouping, which believe it or not, is alot.

JF: It's really fun too.

DO: It also gives us the tremendous opportunity to really find out how the players feel about it. The focus groups tend to tell us pretty much what we already know, or confirm what we believe is true of the product. This also identifies, what could be considered a glaring problem we've overlooked because we're too close to the project. So it helps us in that regard as well.

JF: They're very difficult to analyze sometimes, aren't they?

DO: Sometimes. People will say to us, 'Why do you have focus groups? It always turns out that you knew it all from the start.' Well, I think that it's valuable to have confirmation. It's a diagnostic checkpoint. How are the that we can come to our own concluplayers going to perceive it? Are there things that we see in it? Will everything come out the way we planned it? There are generally no surprises, but, if we do get a couple of surprises, can we make adjustments as far as fine tuning is concerned before we put it on the market? Even if that's all we get out of these focus groups, they're worth it. Since we don't supplant or replace going to a test location and doing player interviews.

It's interesting that you mention the controller. Many times this is one of the areas of chief criticism by the players. In the instance of Star Wars, however, it's the first time, in all of our testing experience, that we haven't gotten one negative reaction to the controller. We think that this time it's as perfectly matched to game play as anything ever done. In the past, I'll admit, we have had doubts about particular games and if the controllers might have been better thought out. However, in the development stages we evaluate all those controllers. As a matter of fact, many times, in prototyping a game we'll build them with the various controllers just for in-house use, to fool around with so

sions on how we feel about it.

JF: The focus, in general, is extremely difficult. If someone decided all of a sudden he wanted focus groups for his problems he would have to do them for about two years to be of any use because it's the relative comparison of what you observe that teaches you something. The players don't turn around and say, 'If you did this it would really be a great game.' You get negatives, but you rarely get constructive suggestions. It's similar to asking someone on the street what they would like to wear in 1985. They can never tell you. Video games are exactly the same. You really can't ask players to come up with the perfect game design. All you can do is build models based on what has been previously successful. But that's not always what players are going to enjoy in the future. I think the interesting thing about focus groups is that we learn more from observation of the players than from the statistical side of it.

All of the game designers, the whole team involved in designing the game, come to the focus groups as well as



market sales and market research. It's really fun to observe the differences between young people playing games and older individuals. The latter group, generally, are more amused. If there's something funny and humorous about the game, older people will roar with laughter. Younger people, on the other hand, will enjoy the humor but they're much more serious about what they're doing. They play the game with much more intensity.

DO: We have a great opportunity for subjective evaluation by watching body language and individual emotional levels. These are things that are difficult to quantify statistically with the other things we do. The degree to which a person gets emotionally involved is really important. I don't know if you've ever done this, but one of the techniques I use when I'm watching or evaluating a game at a trade show, especially with a joystick game, is to go up and just put my hand on the side of the cabinet, while someone is playing, to find out how much energy is being put into the game by torquing the joystick around. Somebody really into the game is going to move that joystick around. That cabinet is going to rock. Those aren't things you can put into a report. It's very important to be able to capture the emotion of the player. To a degree, video games have to play on these emotions. They have to play on building anxieties and stress in a person, just as a movie builds anxiety, stress, suspense and different kinds of emotional qualities.

VG: Besides emotion being a factor when playing video games, do you also think there should be some type of learning capability?

DO: I don't think there is any question that there has to be some type of redeeming educational value. I don't try to put a great deal of emphasis on that when I go out and speak to the public because I think that's putting us on the defensive and we start stretching ourselves to justify our own existence. I think we justify our own existence because we provide a legitimate recreation and leisure entertainment form that stands out on its own. People play video games for one primary purpose and that's because they're fun. Beyond

process information.

VG: But isn't the industry, at least part of it, ignoring the fact that, besides being entertaining, video games are a learning tool as well?

DO: I don't think we're ignoring that fact. Indeed, some of the information I've received, and some of the points I've made here, indicate that people such as Dr. Emanuel Donchin, who is the head of the Psychology Department at the University of Illinois, are saying exactly that. People are into processing information. Dr. Donchin talks about the modern jet aircraft, observing that it has 150 different gauges and instruments. The pilot has to watch these constantly to manage the various systems operating the aircraft: the pressure system, the hydraulic system, the fuel system, or whatever. Years

"... we justify our own existence because we provide a legitimate recreation and leisure entertainment form that stands out on its own. People play video games for one primary purpose and that's because they're fun . . . "

ago, with more rudimentary aircraft, you maybe had a fuel gauge, an altimeter and a joystick, and that's all. There's obviously a vast difference between where we once were, and where we are now. And Dr. Donchin happens to be doing research for the Defense Department in terms of how video technology can be utilized in the whole area of training. I don't think there's any question that visual skills are improved in terms of eye-hand coordination, visual tracking and acuity.

VG: I didn't mean the question as a negative criticism of the industry.

DO: I know that. I didn't take it that way. But I think there are people who have looked at it like that. As a matter of fact we sponsored a conference at Harvard University recently that that, you've got a whole host of things featured many of the leaders in research going on in terms of learning how to and psychology, sociologists, etc. They

all came together for this conference to identify the whole nature of video game playing and what its benefits are to society as well as its relationship to human development from a socio-psychological standpoint.

JF: There's also a complete misunderstanding, perhaps, on the part of the older generation. There's a counterrevolution that's going on now with the kids, and they have very specific entertainment forms. Video games happens to be one such area. It's the computer age, and we're going to require different skills. If we can't interact with machines, then in 5 to 10 years we are going to have a problem because of where the technology is taking us. We are going to become dependent on machines, and they are going to be able to provide us with things we haven't had before. The video game is the most interactive computer that exists. You are all by yourself, and you communicate with the machine.

VG: All these aspects of video, such as public acceptance, aside, there have been some remarkable achievements in recent years. This is not only in the area of game play, but also controls and graphics. Now we seem to be heading in new directions which will further evolve the art form. Along these lines can you tell us about Star Wars since it is the first George Lucas project Atari has done. And are there going to be more? JF: Yes, it's the first of the Lucaslicensed properties we're going to release. With this game, Lucas really didn't work on it directly. They've approved everything, but haven't been involved with the design concept of the

DO: We also have an agreement with Lucas for joint ventures, but that's something totally different.

VG: Atari has to have a game plan regarding what they want to do in the next few years. Where do you envision the company going?

JF: As far as the games business is concerned, we're working on technologies now for 1984 and 1985. From a divisional standpoint, it's hard to be working on things five or six years away because much of what we envision are now untouchable new sciences. But the kinds of projects we're working on are mind blowing from a game play standpoint because we're going to put the

player in a different environment. The interaction between the game and the player is really what's going to develop. Videodiscs are a definite direction; but only a small part of the total picture. You're certainly going to see on-screen things that were never possible before this year. The technology side of the machine is going to give the players totally different types of communications as well as involvements other than what we're familiar with now. Surely he's going to be-let's say it from an environmental standpoint-put in different surroundings by the machine. And then there's the realism and the excitement we're building into game play.

Admittedly, the more we push technology, the more we learn regarding potential creativity, machine design, and just how far the restrictive boundaries might be. This is one of the major problems with conversion games since it limits the scope of anyone's imagination. The result is attention focused on a few basic elements such as the game, screen, hardware system and software. Anything else, even innovative, is eliminated with this type of short sighted approach. So unless you go on and develop better hardware, you restrict your creativity in using software. Whenever you continue to use low resolution TV monitors, you restrict what you can do with the screen. At Atari we aren't willing to take a step backwards and limit our creativity. This business is driven by new ideas and new technologies all to stimulate the player, who couldn't care less whether it's a converter game or an original effort. What he wants is stimulation. He wants the fun and excitement, and unless we can deliver it, we can forget about having a coin-op industry.

DO: Conversion games really promote mediocrity and, more importantly, degradation of the product.

VG: Why do you think it degrades the games?

DO: Because I don't think there's any end to conversion ideas. You first start out with conversions and you say, 'Well, we'll convert boards.' After a time people don't want to convert boards anymore, what they want to do is convert ROMS, and you continually work down to the lowest common denominator of what must be done to create a different game. The operator

alleged cost savings, but what about the player and how much is he willing to sacrifice in the name of entertainment. VG: I believe Wall Street jumped the gun when they said the coin-operated video games business was no longer healthy and wasn't a safe growth business, especially after Atari's fourth quarter situation. How do you perceive

DO: I think it's still a growth business. I think what Wall Street hasn't given us credit for is that we are an entertainment form. We are cyclical in nature, as most entertainment forms are and I believe this business can take off again at any moment. It can happen tomorrow. We can go off on a tremendous run with a product. It's just like the people saying in 1939, after the success

"... I think from the beginning the company has been dedicated to a particular philosophy that's driven it forward and even when Nolan Bushnell left, many of his ideals, principles and philosophy didn't go away with him . . . "

of Gone With the Wind, 'Well, I guess there'll never be anything else now. We've hit the top,' or 'There will never be anything else as successful,' and then here comes a little weird looking creature called "E.T." I believe that our business is very similar in that sense. We will be successful when we bring out solid products that captivate and appeal to players.

VG: Why do you feel Atari has been the leader in the video game business?

DO: I think from the beginning the company has been dedicated to a particular philosophy that's driven it forward. I think that when Nolan Bushnell left many of his ideals, principles and philosophy didn't go away with him. People who were here while he was, and those who have come in since, all adopted the same philosophy. I believe the Warner philosophy parallels this. It

will be inclined to do this because of an was a philosophy of not taking away from the business but continuing to give to it. We have had tremendous success which we've enjoyed with the business, and we keep giving back. The games that we are producing today are very unique. The games that will be coming out in the next few months will take advantage of very special technologies and will also be very different. And, of course, as we develop new technologies we also have to develop expertise to go along with them. We have to be able to access it, execute it and make sure we really build games that make you think.

> Some of the first games that used voice chips weren't particularly successful, or failed because of the voice chip. But the voice you'll hear used in Star Wars, for example, is really one of the best examples of employing speech in a total environmental kind of experience. It really has continuity. The same thing applies to the music. What is happening as far as graphics are concerned is the ability to manipulate more objects on the screen, to draw those graphics more quickly and to improve the visual quality of the images so they really do look like something far different than what we've been used to. We have to get into higher resolution as far as displays are concerned.

At Atari we've always believed in this and have always tried any idea that we felt made sense—pushing forward with it. Many times ideas haven't been successful, but they might have been. And that's the key. Our philosophy was 'Let's do it.' That was our posture when we came out with pinball. We had a whole bunch of ideas regarding design and engineering directions, such as the wide-body size cabinet and playfield, which were very revolutionary and different in their application. Many of them didn't work out and some were horrible failures. But when you trace people who have been successful, generally their career history has a significant number of failures because they have dared to try out their ideas. Later they have hit on something and made it work. So it is with Atari, and always will be in the future as we strive for dynamic, innovative and exciting products that keep us ahead of other manufacturers and first in the minds of the players.



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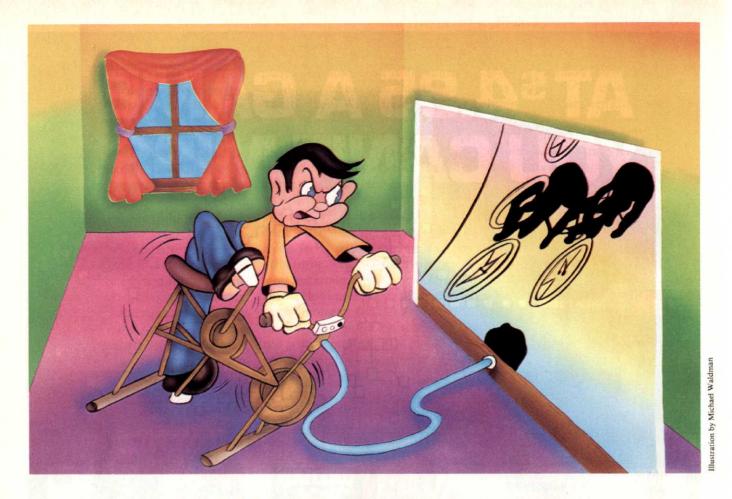
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GETTING PHYSICAL Video Games Go Aerobic

t was a typical New England cellar. In one corner sat a lawnmower minus its pull-start cord; in another, an assortment of empty flower pots, a steamer-trunk labeled "X-mas ornaments" and an old reel-to-reel tape recorder—mostly expensive goods that are now considered junk. Way in the back was an odd lump under a tarpaulin. "That's it!" said Mrs. Wilkes. It might have been Chitty Chitty Bang Bang, but was, instead, a lowly Schwinn XR7 exercise bicycle, bought with the best of intentions, and gathering rust for all but six weeks of its three years of ownership.

The Atari VCS system was still in the family room, but it, too, seemed destined for the basement. "The games are just empty calories," said Mrs. Wilkes. "Thank God the kids are getting tired of them."

Barely 20 minutes later, the exercise bike was back in the family room, the Atari system was on, and Mrs. By Stephen Kiesling

Wilkes—who had never before played any of the games—was now pedalling her way through Activision's new Enduro car race game. With a simple-looking adaptor, video games had now become health and exercise games. Not only were the old cartridges given a new lease on life, but playing itself had become a healthy pastime. Everyone was thrilled but son Mark, who didn't think it was right to have to compete with his parents for playing time on his game system. Perhaps he didn't realize he was witnessing the birth of a new industry.

The device that made this scenario possible was Suncom's new Aerobics Joystick (about \$40), home adaptor that links an Atari or Sears video-game system to almost any stationary bicycle.

It looks much like an ordinary joystick(and can be used as one), but it does more.

With the Aerobics Joystick, videophiles have to pedal to play. Instead of pushing the little red button on the base of ordinary joysticks to start the game, you push the pedals. During play, the faster you pedal, the faster your car runs in games such as Grand Prix or Enduro, while pedal speed also determines how fast your missiles fire when playing Atari's Defender. While your legs drive your vehicle, you still steer with what looks like a regular joystick.

You can't pedal through all the available game cartridges, but you can use many. And, as 13-year-old Mark Wilkes explained, "With the bike, you get more into the games. Your legs do half the work, so you can concentrate better on steering.

The Aerobics Joystick isn't the only video device for exercise, but at the mo-

ment, it's the most practical. At the high end of the scale, the Neiman Marcus catalogue offers a combination video disk player-big screen TV- computerized exercise bike that allows you to pedal through Switzerland without leaving your living room. As you crank up the hills that appear on screen, pedalling gets harder, until it eases off when you get to the top and start a downhill journey. You can even turn off at one of the forks in the road and ride through a different stretch of countryside. Unfortunately, it's still a ride for the health club or the future fitness arcade rather than the home. The machine costs about \$20,000 and you find yourself riding through reruns after only two hours.

Less expensive than Neiman Marcus' creation is another stationary bicycle video-game adaptor kit (about \$600) that made its debut in a New Jersey bar last March. It follows along the lines of the Aerobics Joystick but uses its own game system and adapts the bike for steerable handlebars. At present there is no mass-manufacturer for the device, although several toy companies have expressed interest.

Another simple adaptor that adds the body dimension to video-game systems is the new Amiga Joyboard, an electronic platform about the size of a checkerboard with two foot pads built in. A player stands on it and leans in the direction he wants to go. (Lean forward to make your screen image go forward, and back to make it go backward.) Using the Joyboard isn't really exercise, but it's a big step beyond fingers-only controllers. A ski game, Mogul Master, is included in the \$49 price. Two other games, Surf's Up and Off Your Rocker, will be available for \$10 each.

The benefits of the merger between video games and exercise equipment are apparent; what's surprising is that it's taken so long. For the business-minded, the fitness market is even larger than the one for video games—about \$30 billion for fitness-related expenses compared to the \$2 billion spent on video games last year. Health clubs alone accounted for about \$3 billion in 1981. Stationary bicycles accounted for another \$400 million—on top of more than eight million stationary bikes already in households and health clubs around the country. If Americans are already spending that kind of money on machines that make the Chinese water torture seem exciting,

imagine what they would spend if indoor the excitement of competition without exercise ever became fun.

connecting the video games to exercise equipment is even stronger. As any selfrespecting video jock will attest, video ly get inside various video games, they're games are already a lot closer to real physical sports than most people think. In fact, MIT sociologist Sherry Turkle explained after watching computer game players, "What I see is an experience that great athletes have, where they can allow their bodies to think for them. The games are giving that experience to larger numbers of people. With good players, their fingers do the thinking."

Well-attuned fingers do give video jocks access to something of the joy of sport. And, like psyching up for the big meet, playing video games can also give a powerful boost to the system. For ex-



ample, if you're about to get into the starting blocks (or you've suddenly been attacked by a large dog and have to run for it), the stress triggers an outpouring of adrenaline and other substances that stoke up your body to fight or flee.

Playing video games can cause much the same reaction. Robert Eliot, MD, and his colleague Mark McKinney, PhD, at the University of Nebraska heart-rate increases of 60 beats per minute and blood pressure as high as 220mm over 110mm within one minute of starting a computer game (the healthy baseline pressure is 120 over 80). That was with the subject sitting quietly in the

plains why video games are so addicting. It also might explain why you may sometimes feel nauseated or have a headache like an enlarged version of R2D2 with after a long bout with a video game. As two mechanical arms and a 19-inch color Dr. Eliot explained, the games give "all television monitor for a head. A touch of

the physical component. But if you For the video player, the reason for don't take it out on the playing field you take it out on yourself."

> When TV ads suggest that you actualnot exaggerating—at least in one sense. As far as your body can tell, you are inside the games. If you don't believe it, get a blood pressure cuff and have somebody take a reading while you're playing a game. Or just play a couple of hard games of Centipede right before you go running. You'll probably be amazed at how much energy you feel-and how well video games do simulate the feel of real sports.

With all of these facts and findings available, the allure of video hasn't been lost on weight machine companies, although for the major ones, such as Nautilus and Universal, progress has been slow. Nautilus claims to have a computerized exercise system that is not only the ultimate strength training device, but also fun to use. At the moment, however, the closest Arthur Jones, the 64-year-old creator of the Nautilus weight machines, has come to video-game exercises are close-up video tapes of his voluptuous 20-year-old wife stretching and flexing on the rows of machines. Watching the instructional tapes may not be exercise, but it does raise one's blood pressure.

The first real computerized weight machine, however, which should become available this month in selected health clubs throughout the country, isn't from one of the large companies. It's not a game either, but may provide the hardware for the ultimate in video game exercise.

The system is called the Ariel 4000, after its inventor, Gideon Ariel, PhD, an ex-Olympic discus thrower (Israel '60-64) turned computer and biome-Medical Center, have demonstrated chanics expert. His first major project was to translate high-speed photography of athletes into computer stick figures that could be analyzed to discover the ultimate technique—work that brought a new world record in the shot put. His latest project, essentially a weight machine with a coach built in, may The burst of adrenaline probably ex- ultimately help provide even more world records.

The main machine looks somewhat

the mechanical arm summons the computer. "WELCOME TO THE ARIEL 4000" flashes across the computer screen. For a demonstration, a young gymnast in a white leotard positioned herself between the machine's arms while Dr. Ariel punched directions into a small keyboard. A moment later the display changed to diagrams with instructions for her first exercise, the military press.

When the gymnast pressed the bar over her head, a red bar shot up on the screen. The computer beeped. "Eightyfour pounds," said Ariel, reading the numbers beside the graph. "That's an average of 84, with a maximum of 110 and a minimum of 32." She lifted the bar over her head again and again. Each time, a new bar graph sprung up beside the last one, until the computer beeped for her to start. Then a new graph filled the screen-showing, in bright red and green, a curve of the total work she had done for the set superimposed on the optimum curve she should be working toward. Ariel pushed another button and a nearby printer spewed out a paper copy of each graph for her files.

When the 4000 becomes available in health clubs, each user will simply insert a special exercise cassette into a reader to program each of the stations to his particular body and exercise regimen. The Ariel 4000 can be set to perform a large number of different exercises for any sized body. With the computer setting and varying the weight, the machines could in fact become the best training possible.

huge rush of buyers. In fact, Wilson



The Ariel 400 computerized resistive exercise machine system.

Sporting Goods, the first sponsor of the machines, backed out last year, and Ariel has been promoting it on his own. The cost of the system, the primary machine and the leg machines, is about \$25,000 including the computer, so it's not for the home market but well within the range of health clubs.

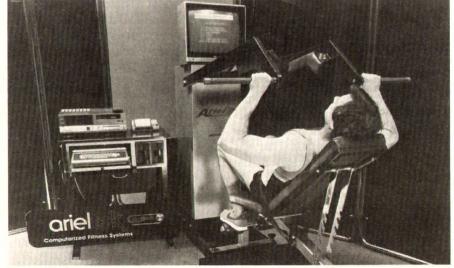
The problems with the machine are Unfortunately, Ariel hasn't had a twofold: First it doesn't have enough stations such as the Nautilus machines,

so there would be long lines at the health club; secondly, after the novelty wears off, it's just another weight machine, i.e., as exciting as Chinese water torture. The best use of the technology, then, may be completely different than Ariel intended.

The heart of the 4000 (which isn't visible except in prototypes) is, in the inventor's words, "a pint of oil in a hydraulic system, some electronics and a five-dollar computer chip." The entire mechanism is about the size and shape of a shock absorber. Cost to build: \$100.

Imagine putting computer-controlled hydraulics into the controls of Battle Zone. Playing the game is then not just a matter of reflexes; instead you'll have to break a sweat to crank your tank around. As you get better (and stronger) the controls will get heavier and you'll have to move them faster. If you feel wasted after losing one of the current arcade games, imagine how you'll feel after dealing with the hydraulics -especially if they're programmed to fight back.

Such ideas aren't that farfetched. In fact, quadraplegics in the spinal-cord in-



The Arieltek computerized fitness system in action.

jury unit at the Palo Alto Veterans Administration Medical Center have been working out on video games for almost two years. To play, patients use a shoulder harness which allows them to manipulate their shoulder blades forward, backward and upward to control the games. At last check, the only problem was lack of games—and that the patients had lost interest in their old favorite pastime: weightlifting.

What's next? Well, you won't have to

wait long to find out. Prototypes of still-secret device that's now being tested treadmill-and rowing machine-operated video games are already in the works. Special health and fitness training games should soon be out for the Aerobics Jovstick alone. And more manufacturers will be entering this new field as the old video-game markets become even more overcrowded. Rumor has it that the next generation of video-game exercise machines is already built and will soon be released for the up-scale market. It's a

on board navy submarines. We'll let you know as soon as it surfaces.

In any case, the future video-game championships will probably belong to the athletes. So, better start training....

Stephen Kiesling is an Olympic athlete and Associate Editor of American Health who's always trying to find easy ways to get in shape-including the Aerobics Joysticks.

Good Health and Video

ood health and video games would seem a contradiction in terms if you were to listen to video critics. But if Robert V. Phillips succeeds, we may be seeing healthy videophiles in the not-too-distant future. The reason is that Phillips has invented what he calls the Video Exercycle, a video game that gets its thrust, or forward movement, from the player's ability to pedal an exercycle. Right now there is only a prototype game at a bar called Patrix in New Brunswick, NJ. The possibilities seem limitless, only dictated by an ability to pedal a bicycle. Good cardiovascular exercise and gamesmanship all in one place.

"These games could as easily be used in an arcade setting or health spa. They can also," according to Phillips, "be used in the home."

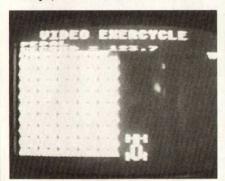
The idea for the video exercycle had begun about three years ago while Phillips, then a University of Maryland student, was watching joggers suffer and sweat in the Washington, D.C. heat. Phillips himself was pedaling his exercycle in front of an air conditioner, but soon found this activity to be a bit boring. With this recognition firmly in mind, the computer-programming major, who also had a solid background in behavioral psychology, started to plan ways to invent a video game that incorporated his exercycle.

The prototype at Patrix is still, admittedly, a bit primitive. The handlebars of the bicycle control the image of an electronic race car (for left and right turns), while pedaling controls the speed at which the rider must maneuver around a twisting, video race course.

The applications for the home, health spas and arcades could be quite similar yet different. Phillips envisions selling a complete kit for the home that would include two cartridges, adaptable to Atari's computer systems, and the necessary hardware to attach to any exercycle. The game possibilities range from pedaling around your own hometown, traveling through any city in the world, or traversing a computerspawned universe, where players could assume the role of comic book heroes. The price for all this is difficult to approximate given what still needs to be developed, but for the home kit, Phillips believes it will have to cost less than \$100.

Phillips has already formed his own corporation and expects to have production models for the arcades before the summer is over. He feels the home version should be available by the end of the year. His only worry, at the moment, is getting out there first before some other company speeds ahead of him.

-Steven Epstein



"...a complete kit for the home that would include two cartridges, adaptable to Atari's computer systems, and the necessary hardware to attach to any exercycle . . . "





A Close-up Look at the Consumer Electronics Showcase

By Roger C. Sharpe



lmost every product category from sporting goods to luggage, fashion, photographic equipment, automobiles, boats and even planes, has its own trade show. Most provide given industries an opportunity to show off their newest developments and also shed light on potential future trends and manufacturing directions. Many of these conventions go unnoticed by the general public, while others tend to transcend their main purpose and gain widespread media attention which reveals events taking place behind closed doors. Such is the case with the Consumer Electronics Show (CES) and its visions for the world of today and tomorrow.

Where once audio products dominated the proceedings, the evolution of the technology has dramatically

transformed the entire industry to a point where it now includes not only the newest audio creations, but also video, personal communications, games, computers, robots and glimpses of the shape of things to come. Expanding in scope with each succeeding convention, CES has become an event, a happening that fascinated by what they're able to see.

This summer's showcase was no exception. It featured the expected along with some surprising developments which, taken in context, offer further substantiation regarding just what the only games in town will be for the coming months. From June 5th through June 8th, Chicago's imposing lakefront exposition center, McCormick Place, along with three other locations, was where the action was for more than 80,000 individuals. All came to get a first-hand look at over 1,200 exhibits which covered in excess of 800,000 square feet of space. Many weren't ready for what they beheld, and behind every corner there lurked yet another discovery.

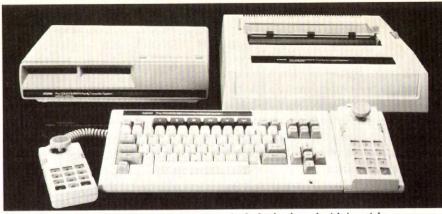
Adding more fuel to the fire of just draws in the curious as well as those how far video games and computers have come was the fact that where, previously, they could be found displayed alongside VCR's, watches, hifi systems, automobile stereos and other 'consumer electronics' equipment, this time around a separate building was needed in order to provide enough space for three floors of exhibits. One booth after another showed nothing but video games, systems, computers, software, accessories and peripherals, not to mention an array of robotic creations.



The Computer Age

As a broad overview, what transpired over the four days was nothing less than remarkable, especially in the area of personal computer introductions. Taking the lead was Coleco and a much anticipated system which proved to have just as much of an impact, if not more, as the company's ColecoVision when it was initially unveiled.

Billed as a 'family computer system,' ADAM features an 80K RAM Memory Console with a built-in digital data pack drive. The latter utilizes Fastransfer circuitry which provides for the fast transmission of data that's comparable in speed to a floppy disk, but at a much lower cost. Accepting Coleco's own digital data packs, up to 1/2 million (500K) bytes of information can be stored, or about 250 pages of text. In addition, the memory console is equipped with a port that accepts all ColecoVision video game cartridges as well as expansion modules. Two game controllers are

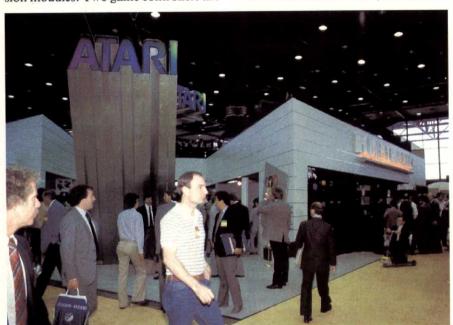


Coleco's new ADAM family computer system includes keyboard with joysticks, memory console and Smart Writer printer.

also included in the package, while the memory console has been designed to accommodate a second, optional digital data pack drive so that programs can be run simultaneously, or saved for backup storage. If that weren't enough, the memory console can be expanded to 144K RAM with the addition of an optional 64K memory expander.

Available in two models, ADAM is a

self-contained computer system (suggested retail price will be under \$600) or an expansion module for the ColecoVision video game system (for approximately \$400). The stepped and sculptured keyboard features 75 full travel keys as well as a series of six colorcoded Smart Keys which are redefined for each new application, six Control Keys dedicated to word processing func-



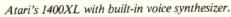


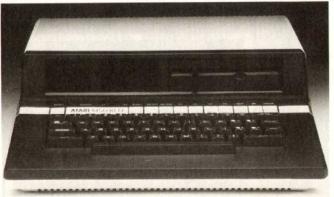
Atari's 600XL featuring 16K RAM.



Atari's 800XL with 64K RAM.







Atari's top-of-the-line 1450XLD featuring a built-in modem.

tions, and Cursor Control Keys for easily relocating the cursor to any point on the screen.

ADAM's SmartWriter letter quality printer is a bi-directional, 80 column printer, which prints at a rate of 120 words per minute. It uses a standard and interchangeable daisy wheel, affording a variety of print styles and a multi-strike carbon ribbon, with a 91/2 inch wide carriage for either single sheets or continuous fan fold paper. In addition, a SmartWriter word processing program is built into the system, which also includes two digital data packs: Smart BASIC (which is Applesoft source code compatible) and a Super Game Pack that features Buck Rogers-The Planet of Zoom based on the licensed arcade game from Sega.

Atari Strikes Back

Not willing to be left behind as the computer revolution continues to explode, Atari struck back with a vengeance as they introduced their next generation of home computers which will replace the 400, 800 and 1200XL. Obviously designed to cover the broad range of applications and personal uses, the four new models still can utilize the hundreds of software programs already available for existing Atari systems, as well as a full complement of peripherals.

The 600XL home computer offers 16K RAM while the 800XL features 64K RAM. Both provide 24K ROM, built-in ATARI BASIC, a unique Help key which allows for instant instructions on how to use select programs, 62-key full stroke keyboard with international character set, full screen editing, deleting backspace key, program interrupt key, inverse video key to reverse backgroundtype colors, tab keys, and serial as well as processor ports for future expansion.

So as not to pale in comparison with the competition, Atari offers a choice of 256 colors for display with a total of 128 available at any one time. In addition, the company has supplied a four voice, 31/2 octave sound generator. Taken together, by using an attachable cassette program recorder, both computers can accept a program from one track and audio signals from another track connected to a television, making sight and sound programs possible.

A further step up are the Atari 1400XL and 1450XLD which feature ly, both models feature two input con-





Highlighting the Mattel Electronics' booth was the Aquarius home computer system and, below, the new COM/PAC all-in-one with keyboard console, mini-expander, printer and data recorder.



troller jacks for attaching joysticks, padbuilt-in telecommunications modems for access to other computers as well as dles, trak-balls, and keypads. stock market quotes, data bases or Mattel's Age of Aquarius

bulletin boards, and many shop-athome services. Add to this built-in voice synthesizers which can translate operator-typed commands into speech, and the two new models are a breed apart. Future programs will even be available that will talk to owners. In addition, the 1400XL and 1450XLD provide four special function keys that, with a push of a button, allow for instant access to programs. A Help key gives instant instructions on how to use various programs, but can also activate a computer hardware test check to determine if the keyboard, sound, memory and other

functions are operating properly. Last-

Having surprised many when they first introduced their Aquarius home computer system, Mattel has now gone the next step with an all-in-one Com/Pac system consisting of an Aquarius Basic Keyboard console, Mini Expander with hand controllers for playing games, 40-column thermal printer and a Data Recorder for storing programs on audio cassettes.

In terms of basic features, the console offers a 49 moving-key keyboard that's powered by a Z80A microprocessor and includes built-in Microsoft BASIC. The unit has 256 characters including upper and lower case letters, numbers and graphics as well as 16 colors. The unit provides 4K RAM and 8K ROM memory, while also being expandable to 52K with all available peripherals connecting directly to the Aquarius keyboard without any additional interfaces.

While components can still be purchased individually, the Com/Pac was introduced "for families who want computing, printing, recording and game play capabilities in an affordable package," explained William Gillis, vice-president and general manager of Aquarius Home Computer Systems.

And, not wanting to leave anything to chance, regarding technological developments in home computers, Mattel unveiled an updated Aquarius II with availability planned for later this year. Capable of using peripherals already introduced for the original unit, including a four-color printer, modem, command console and a variety of software, the Aquarius II features a full-stroke keyboard with spacebar, 64K memory expansion capacity and built-in Extended Microsoft BASIC.

Spectravideo Visions

The long awaited SV-318 personal computer from Spectravideo was on display again, featuring a price point under \$300 as well as 32K ROM expandable to 96K and 32K RAM expandable to 256K. In addition, there's built-in SV Microsoft Extended BASIC, CP/M compatibility, a Z80A microprocessor and a host of other features. However, the SV-318 was somewhat overshadowed by the appearance of the SV-328 with its built-in 48K ROM expandable to 96K and 80K RAM that's expandable to 144K. In addition, the unit offers CP/M Plus compatibility, a top loading cartridge slot and easy access ports, as well as a 3.6MHz fast clock for high speed information processing.

The system also features a built-in word processing program and a super terminal program, while the keyboard is a full-stroke IBM-design. There are 87-keys and ten user definable functions, three special word processor keys, 34 keyboard generated computer graphic symbols, a separate numeric keypad and upper as well as lower case alphabet.

Priced at under \$600, the SV-328 is





Spectravideo's new SV-328 personal computer features an 87-key full stroke keyboard along with built-in 48K ROM and 64K user addressable RAM.

isting computer peripherals such as a dual channel/stereo data cassette drive, floppy disk drive, dot matrix printer, sensor touch graphic tablet and much

Also exhibited was the company's Compumate, which attaches to an Atari VCS and offers true computer power and functions. The add-on features a 42-key sensor touch keyboard and 16K ROM with built-in BASIC. Additionally, the Compumate incorporates a builtin "magic easel" program for drawing pictures in up to 16 colors and a "music composer" program which takes the unit out of the realm of being a games only system.

Unitronics' Sonic Boom

Yet another newcomer to the field of home computers is Unitronics' Sonic with built-in Waferdrive. Featuring 48K RAM, the Sonic is Apple II compatible and, with a Unitronics Z-80 Card Module, it can be converted to run compatible with all of Spectravideo's ex- CP/M programs. A 6502 based

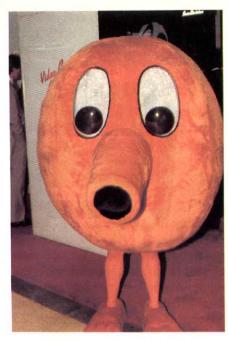
microprocessor with a TI video display processor for enhanced arcade quality graphics, the built-in Waferdrive allows for full read/write capabilities and mass storage of 128K bytes of memory.

The Sonic includes full 16 color display, upper and lower case, sound generation, high graphics resolution, full character 40-column display, 70-key typewriter style keyboard with 10 function keys, an expansion port which accepts up to 32K RAM of additional memory and such peripherals as the company's upcoming Unimodem and printers.

An interesting dimension of the Sonic is that a planned Unitronics Interface Module I and II will allow the unit to be connected to an Atari VCS or ColecoVision game system, thus providing even greater game and computer capabilities. Initial software, meanwhile, will include Microsoft BASIC, a word processor and VisiCalc spreadsheet programs along with a range of new generation Gamewafers. Last but not least of Unitronics' announcements was the development of an expander and Waferdrive module for the VIC-20 and plans to broaden this base by tapping into the Commodore 64 within the next year.

Tomy's Tutor Makes the Grade

Moving beyond the realm of toys and 3-D hand-held video games, Tomy showed off their new Tutor home computer. According to Jack Tweddale,







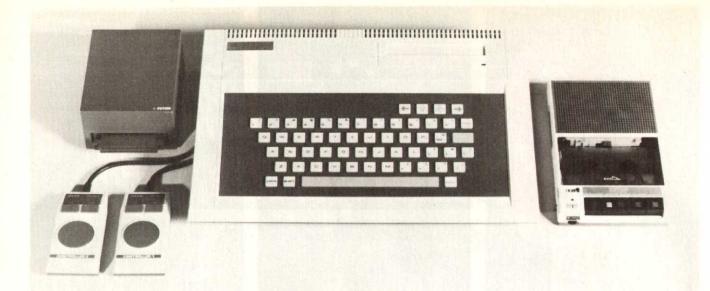


Besides product, there's always a cast of characters who manage to catch your eye at a trade show. Q*bert was seen playing a tabletop and some home carts at the Parker Brothers booth, Mickey and Goofy found themselves in a different type of enchanted kingdom and, although Data Age may be dead, Frankenstein was alive and well at the Candyman discount cartridge booth. Some monkey business could be found at the Leading Edge booth, and Magnavox thought that Odyssey was in the pink with the announcement of a new Pink Panther game for use not only with their own system but also Atari and Coleco Vision. Androbot's B.O.B. could be seen getting personal as he retrieved a can of beer for a passing visitor and don't think that you're seeing The Ritz Brothers, Marx Brothers or even Curly, Moe and Larry-it's only a line-up of three Denby robots.

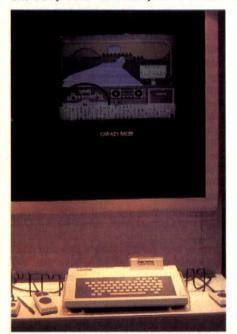








The Tomy Tutor home computer with built-in BASIC and a 16-color graphics system.



vice-president of the company's home computer division, the unit is "aimed at the computer novice who wants to learn to program, master games and educational programs, and create high resolution graphics."

A blue and white console with raised keys and standard typewriter key spacing, the Tutor features both upper and lower case as well as 16 separate colors on its high resolution 256 x 192 pixels graphics systems. In addition, there's 32K ROM and 16K RAM expandable to 64K. BASIC is built into the computer which provides a separate cartridge slot and composite video and audio output with RF modulator for easily hooking up the unit to a television set or monitor.

Scheduled to be released this fall with a suggested retail price of under \$150, the Tomy Tutor also allows for directly

hooking up a data cassette recorder for storage of information and a voice synthesizer with built-in audio capability of three musical tones and a range of eight octaves per tone.

Commodore's Potent Portable

Building upon the incredible success of the VIC-20 and the 64, Commodore has brought matters down to size with the new Executive 64. Weighing in at under 28 pounds, the portable offers 64K RAM, a full upper and lower case detachable keyboard, built-in 6-inch color monitor, and built-in single floppy disk drive with 170K capacity.

With a suggested retail price of undef \$1,000, the Executive 64 is fully compatible with VIC-20 and 64 peripherals including the VIC modem. External



Weighing in at under 28 pounds, the new Commodore Executive 64 system.



ports also allow for a full-sized monitor and graphic printer to be hooked up. Using a Z-80 cartridge, the portable can accommodate a CP/M operating system or, with a PET Emulator, use much of the available PET software.

Another impressive development for Commodore was the announcement of a speech module for use with any of the company's series of 64 computers. Named the Commodore Speech Module, it contains a built-in vocabulary of 235 words spoken in a female voice which can be programmed directly from BASIC and/or an assembler. In addition, the module supports a separate audio-out, so that the user can connect the speech output directly to a hi-fi system, television, or color monitor. And more words, as well as different voices, are planned for the near future.

Lone Stars from Texas Instruments

Having already created a niche for themselves with the TI 99/4A and hoping that lightning will strike twice with the Compact Computer 40, Texas Instruments displayed a range of add-ons and peripherals to expand the capabilities and features of their computers. Cosmetically, the TI 99/4A will no longer be a vision in black but, by the end of summer, will show off a new gray

Of more importance was the announcement of a free Solid State Speech Synthesizer, valued at \$100, with the purchase of certain software cartridges, cassettes or albums. The promotion will run from June 1, 1983 to January 31, 1984. In addition, the Milton Bradley MBX Voice Recognition System was on view.

Designed to work with 10 software packages developed by Milton Bradley, the system includes a 64-position membrane keypad unit with a built-in electronic speech synthesis and voice recognition control center, a special microphone that allows users to give verbal instructions to the computer and a multi-function joystick. An additional joystick will also be available for twoplayer games. The MBX unit plugs directly into the joystick port of the 99/4A and each software package includes an overlay that fits over the keypad to facilitate the playing of each game.



As for the Compact Computer 40, a new 16K byte RAM cartridge was demonstrated. It expands the useraddressable memory of the CC 40 and allows for the writing of larger programs in enhanced BASIC language which can then be offloaded onto a TI Wafertape cartridge.

The Video Technology Line-up

This Hong Kong based company made its presence known at CES with a line-up of personal computer models that seemed to cover almost every and any

Texas Instruments gets its computers into the game with Milton Bradley's MBX Voice Recognition System and 10 new software packages.



need. Take the new VZ200 Color Personal Computer, which will retail for less than \$100. It features 9 colors, 16K ROM and 4K RAM expandable in two steps to 16K and 64K RAM. The keyboard offers 45 automatic repeat keys and a 'beep' sound for any key entry. There's full on-screen editing, and the VZ200 incorporates a single channel sound output as well as a full line of upcoming peripherals. In addition, software titles will soon be available in four categories, including education, games, business applications and home management.

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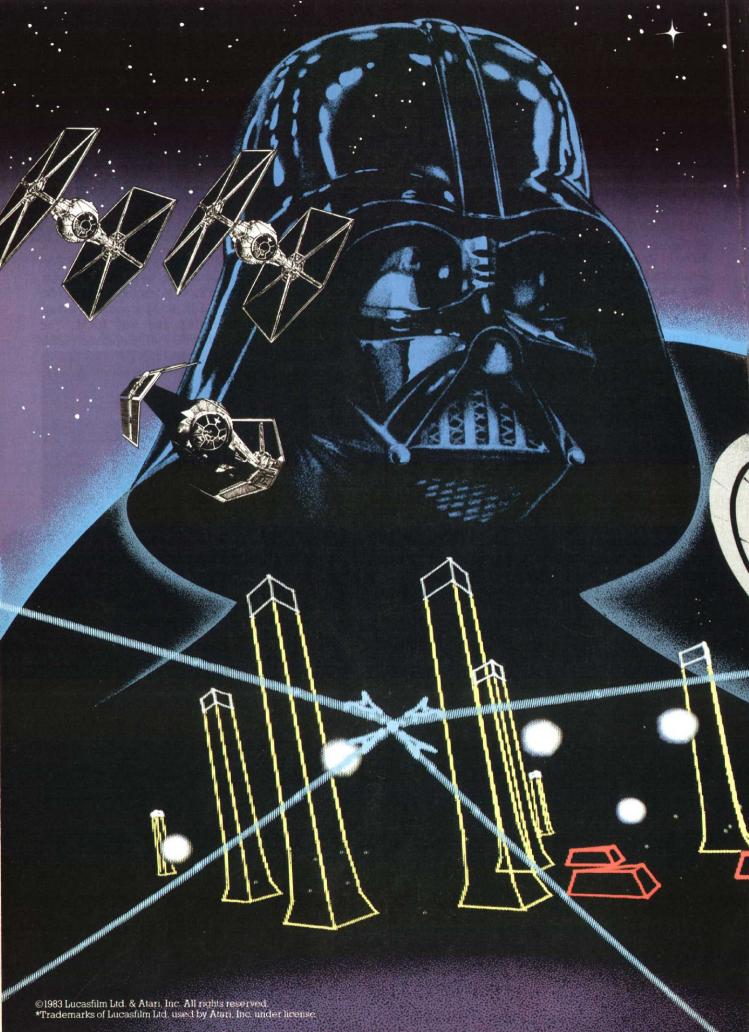
INTELLIVISION **VIC 64**

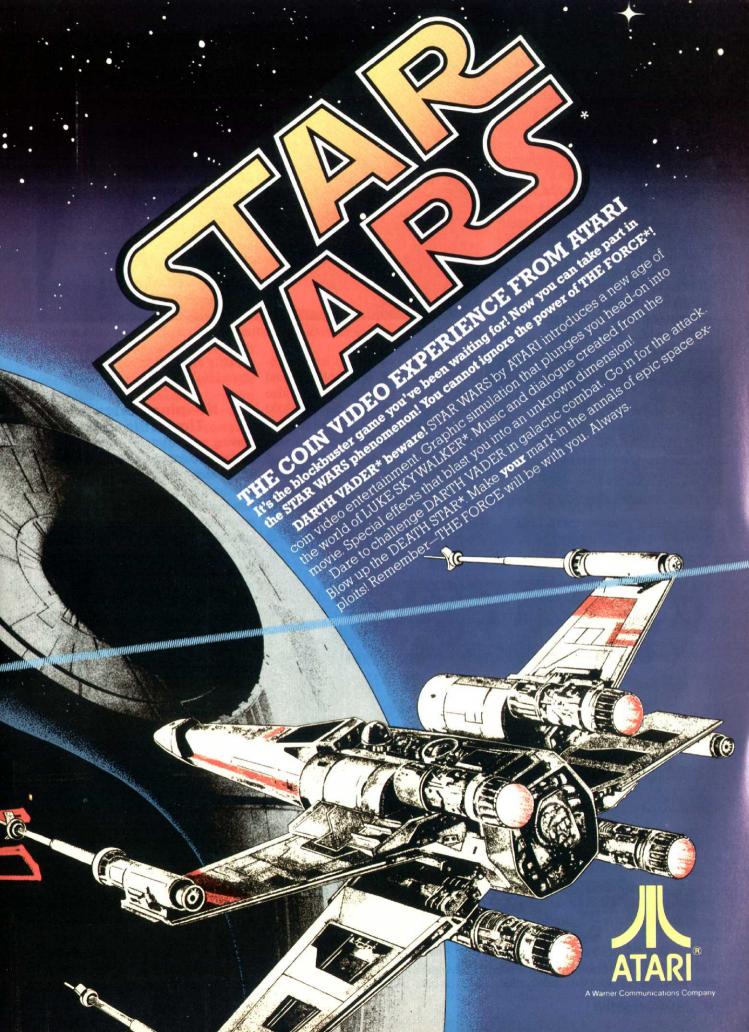
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In an attempt to combine the best of both worlds, Video Technology introduced a unique 3-in-1 personal computer and video game system—the Laser 2001, which, with the addition of an inexpensive interface allows owners to play all ColecoVision and Atari VCScompatible games. However, the Laser 2001 isn't just a game machine. It features built-in 80K RAM capacity which allows for high-RAM applications such as word processing and the generating of high resolution graphics, while a 64K expansion module increases capacity to 144K.

The unit also offers two fast-response joysticks and a complete range of peripherals including printers, light pen, modem and Laser-Vision software.

Meanwhile, the Laser 3000 premiered



The price is right with the Timex/Sinclair 1500 computer.



as a personal computer offering compatibility with Apple II software and programs created specifically by Video Technology. In addition, the Laser 3000 features 24K ROM in Microsoft BASIC, which provides the power to fully support sophisticated graphics and sound generation. At the heart of the unit is a totally new microprocessor chip which has been custom developed, 64K RAM

capacity expandable in 64K increments up to 256K.

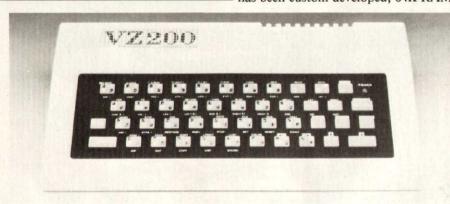
Keeping Watch of Timex/Sinclair

Having made its mark with affordable portable computers, Timex/Sinclair keeps improving on the theme as evidenced by two new members of the family. The 2000 series color personal computers feature high resolution color graphics, fully programmable sound, moveable 'soft touch' full-travel keyboard, solid-state Timex cartridge software and joystick ports at price points under \$200.

Also gaining a measure of attention and interest was the Timex/Sinclair 1500. a fully programmable computer with black and white graphics capability, an expandable memory, a moveable key typewriter format keyboard and use of either standard audio cassettes or minicartridge software. All at a retail price under \$80.

Totally compatible with all of the peripherals and software already available for the TS 1000, the new unit features 16K RAM expandable to 32K RAM via an optional memory expansion module. The 40 full-movement, typewriter-format keys provide 22 graphics characters as well as 22 special characters and also features a unique 'one touch' key word entry enabling each key to perform as many as six possible functions.

These were just some of the highlights of the new computer systems on display. Others included the introduction of a



Video Technology's VZ200 color graphic personal computer.



The Laser 2001 with expansion module interface, data cassette recorder, joysticks and game carts.

new portable model from Sharp, the PC-5000 and the PC-1250 Student Computer Kit pocket-sized unit. Panasonic and Quasar also showed off their own computers, while Casio unveiled a new notebook-size FP-200 as the emphasis seemed to indicate a fresh approach to smaller wonders. Hewlett-Packard, NEC, Epson and others rounded off the demonstration that computers are indeed ready for a major surge in public interest and buying habits, but game systems weren't left behind in the crowd.

Atari Stays in the Game

Besides a full line of new generation personal computer products, it might have been easy to lose in the shuffle an impressive array of developments expressly for the VCS and 5200. A major push was apparent for the seemingly ageless VCS with numerous accessories centering around an add-on keyboard to transform the system into a computer designated The Graduate.

In addition, a new 2600 Voice Commander was introduced, allowing for state-of-the-art game play with voice activated controls. There were new joysticks, a trak-ball controller, video touch pad, kids controller, Graduate Printer and Waferdrive, as well as an interface module with modem and 16K memory module.

The 5200 was close behind in the number of advances announced for this Supersystem, not the least of which was the long-anticipated VCS cartridge adapter allowing for 2600 games to be played on the 5200. Also in evidence was the 5200 Trak-Ball controller and a new price for the system of under \$200.

Mattel Intellivision's New Look

Although the Intellivision III is a vision of the past, this lighter and more compact designed model is ably ready for the challenges ahead. The Intellivision II seemed to offer an infinite number of possibilities and directions whether for computer applications or game play.

On display to round off the entire Intellivision II Entertainment Computer System were a variety of peripherals beginning with a newly restyled Intellivoice Voice Synthesis Module along with more sophisticated games to support the addition. The System Changer









A seemingly ageless wonder, Atari's 2600 VCS shows that it's not getting older, only better. Above, a full range of accessories allowing the unit to become The Graduate computer system, as well as a complete game playing machine.

made its debut, which will now allow Intellivision owners to play all Atari 2600 compatible cartridges. A full function Computer Keyboard brings into play a Computer Adaptor and BASIC program language along with the ability to add-on the Intellivision Music Syn-

thesizer. The latter features a keyboard which allows you to learn to read music as well as compose original melodies.

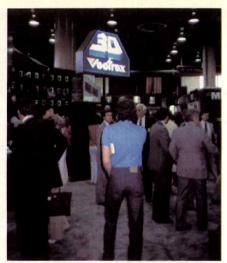
All Systems Go

Pure video game systems have, admittedly, fallen from the spotlight although their impact can still be felt as manufacturers attempt to offer increased capabilities and a range of add-ons providing more computer-like functions. Maybe one of the best examples of this philosophy is GCE's Vectrex. Long noticeable for its unique design and use of vector graphics, the free-standing unit has been substantially embellished and given a longer name, as well, as the 'Graphic Computer System'.

With the newest developments already sneak-previewed in the July issue of Video Games ("Game Efforts" page 74) Vectrex was out in full force showing off the imaginative Light Pen along with a series of compatible cartridges. The 3-D Imager received more than a few looks for the enhanced dimensional effects and colorful graphic displays of games such as Pole Position (yes, the same one from the arcade licensed through Namco), a newly created Mine Storm and Narrow Escape. Also on view was the upcoming computer keyboard along with a host of peripherals scheduled to hit the market by the end of this year.

Playing The Field

Not all the excitement and attention was focused on computers and game systems, although there was a pro-





General Consumer Electronics brings 3-D action and graphics to its Vectrex system with specially designed goggles.

nounced emphasis on this area of development. Available game software was amplified by the appearance of a number of titles which were announced in multiple formats, for the basic game systems as well as the most popular com-

puter models.

Better graphics, more dimensionalized screen images and advanced game play seemed to be the norm from exhibit to exhibit. Where once development might have been seen as reaching an impasse due to system restrictions, novel attemps to broaden the scope for games resulted. Starpath, with their Supercharger VCS addition, has now been joined by such efforts as CBS Electronics' Ram Plus series of titles and even such more physically interactive devices as Amiga's Joyboard or Suncom's new Aerobic's joystick.

Xonox displayed what may be a portent of future home cart design with a 'double-ender' format providing two games in one. Milton Bradley's Arcade Center controls brought back images of the initial video game systems from the early Seventies, but the time may well be right for such a concept to now find new life.

In addition, there was a noticeable shift to more coin-op inspired titles such as Parker Brothers' Q*Bert, Tut and Popeye, while Sega featured an array of some of their arcade hits which haven't been licensed to Coleco. Another attraction was the inclusion of Konami in the proceedings. Better known for such arcade standouts as Time Pilot, Gyruss and others, the company displayed their own line of VCS-compatible carts as well as two new table-top models (Time Pilot and Tut) and a remarkable baseball computer which is scheduled for some more tweaking and a possible release by the end of the year.

In looking at the entire area of handhelds, Nintendo continued to expand on their line of Game & Watch combinations with some licensed themes based on arcade hits as well as other recognizable figures. Also on display were three new table-tops which tended to prove that this product category still has a great deal of life in it. Add Parker Brothers' Q*Bert model to the ranks, along with the array from Coleco, and portable video seems to have found a marketplace.

Rounding off the show floor offerings were a large number of controllers, from remote control models to joysticks of all shapes and sizes as well as trakballs and a variety of accessories for both game systems and home computers.



Mattel takes Intellivision into the next evolutionary stage with an array of the model II's Entertainment Computer System peripherals.



Fox Video Games offers a familiar setting for games.



Big plans from Wico.





Software sights at Synapse and Micro Lab.



Catching the newest titles from Imagic.



A new member to the Androbot family: F.R.E.D.



Xonox's new game cart offerings and design.

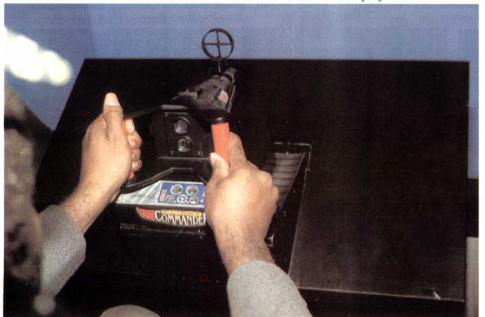


Playing for real at Thorn EMI.

Next month, in fact, Video Games picks up where we leave off here, with more in-depth coverage of the latest announcements in games and software, hand-helds and portables as well as all of the newest accessories. One thing is for certain: It looks like the coming months are going to be very busy in terms of home video and computer developments. So stay tuned for all the news. A



Arcade titles and multiple formats at Parker Brothers.



Getting a grip on Milton Bradley's Arcade Center controls.





Fun and games at First Star Software and Spinnaker.





Porky's at Fox Video and the action at Activision.



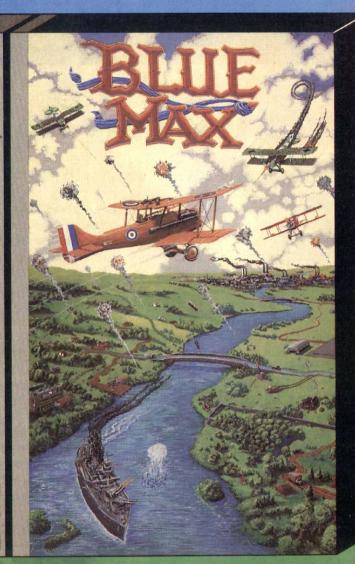
Table-tops, hand-helds and arcade games at Nintendo.

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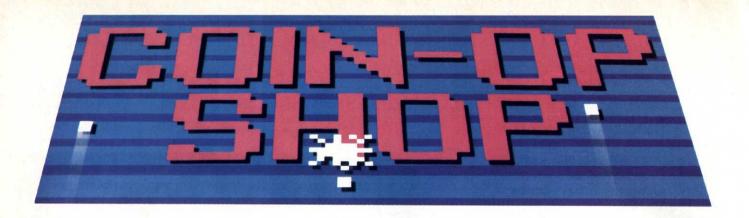
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synapse



A Mixed Bag of Arcade Attractions

By John Holstrom

he first arcade hit from Cinematronics was Space Wars. Released back in 1977, the vector graphic effort still stands apart from the crowd because it offered a glimpse of video games' incredible potential. What distinguished it from all other games, past and present, were the many player options, including the ability to choose game features to suit individual desires and skill levels. The player, in essence, made the decision regarding the degree of difficulty in terms of game play, as well as the nature of the given action on screen one would encounter.

Rather than moving ahead and improving upon this concept for more 'personalized' game play activity, the coinop manufacturers tended to concentrate on cutting down this type of interaction and focused, instead, on creating themes where any selection process for difficulty levels and on-screen action was left in the hands of the operator. This isn't to suggest that there haven't been some models which have attempted to bridge the gap, such as Atari's Tempest or even the more recent Food Fight. However, the differences between a Space Wars and these variations are all too apparent.

All of the flexibility in settings is with the operator, whether it's game difficulty levels; number of lives the player gets at the beginning of the game; bonus levels or the point at which you can gain an additional 'life'; and pricing (on Xevious, for example, there are 16 different coinage modes available). Obviously, the coin-op players of the world are faced with a situation where one and

all are at the mercy of the local arcade owners. However strict, greedy, malevolent, or forgiving the particular operator is will, in part, determine what your reaction will be to any given game.

It's unfortunate, but true, that less and less are any two of the same models playing the same way from location to location. And unless you have a general idea ahead of time regarding the basic play of a video game, you might never get a fair shot at deciding whether it's a game for your own tastes. A difference of 10,000 points in bonus levels, on some machines, is enough to set some players off, while having three ships to start with, rather then five, might well be another determining factor.

With all of the consistency and even repetition in game themes and action over the years, it becomes increasingly ridiculous that the 'same' games can

wind up playing so differently. And unfortunately, the situation isn't going to get any better in the foreseeable future. Most of the attention is now being given to creating new technological improvements to take the games into the next design plateau, whether it be videodisc themes or more dimensionalized and true-to-life raster and vector graphics.

In the meantime, the question remains whether players wouldn't like to have more control over their coin-op entertainment and the option to select a game setting that approximates their own perceived level of skill. We think they would because we have been deluged with so many games featuring similar play and themes. At the very least, personalization might take the edge off the disappointment felt at encountering yet another rehash of the same old game.



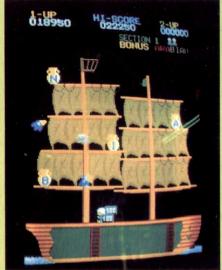


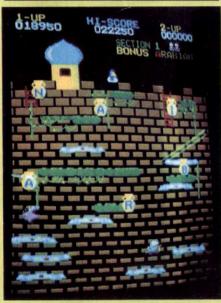
Atari continues to enjoy a fair to rescue the fair princess from a tower. and Xevious holding its own. Now comes Arabian, a licensed effort from book. Sun Electronics Corporation which should balance off Atari's offerings given the anticipated arrival of Star Wars. A familiar maze game scenario, Arabian stars a prince whose purpose is there's a 4,000 point bonus. Meanwhile,

amount of success with Pole Position None of this is explained in the opening still going strong, Millipede doing well, of the game. Instead the story unfolds, page by page, as if the player is reading a

The object of each board is to collect pots worth 500 points that are marked with letters spelling out A-R-A-B-I-A-N. Get them in the proper sequence and

the prince's adversaries include oscars (purple blobs with silly smiles), rocs (blue birds resembling crows), super oscars and super rocs which are created when two get tangled up together. There are also Genies, who materialize at one of the pots, hang around for awhile, and





sometimes throw a deadly snowball at the prince. What's important to remember here is that the prince can't pick up a pot if a genie is above it or he'll die, but he can grab it if the telltale purple clouds (indicating the upcoming appearance of a genie) haven't vet coalesced.

The controls for Arabian are similar to those found on Kangaroo, which shouldn't be that much of a surprise since the latter was also a Sun Electronics creation. Aside from the standard 4-way directional capability-left, right, up and down-pushing the stick to the left or right and upwards causes the prince to jump. Pushing the joystick down to the left or right will make the prince crawl in that direction. The only defense is a kick button, whereby the prince can kick a roc or oscar for 100 points, a super roc or oscar for 1,000 points, or gain mutiple bonuses by kicking several creatures when they're lined up on the same level.

While Arabian has a certain amount of player appeal due to some colorful graphics and the basic theme, there are weaknesses, especially in its game play. The joystick is confusing and difficult to control since there are so many separate functions to be aware of. The kick button is also a source of frustration. The rocs and oscars have a habit of floating around in unpredictable ways, and sometimes you can make contact, but the kick won't register because it didn't compute. In addition, it's impossible to kick or avoid snowballs when you're crawling. So strategy and timing are very important. The best thing to say in Arabian's favor is that there isn't a time limit, so if you're patient enough, you can overcome most of the obstacles.

Regarding the graphics, while they're crisp, clear and more than adequate, some of the images are unappealing, such as the ugly oscars, who appear as formless blobs. Add to this a sound track which is a whining, irritating screech that attempts to evoke the ancient Middle East, and it's easy to see that Arabian isn't for everyone.

All in all, however, given what has been available of late, Arabian is a pretty good game that does offer new challenges to fans of climping and jumping games. The main problem is that Atari has such a good reputation for video games, one can't help but expect more from them.



Gottlieb's

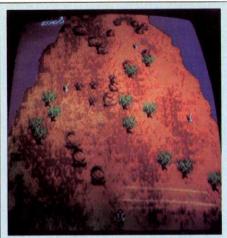


Tron was a big hit in the arcades, despite the movie's failure at the box office. Since Krull the movie wasn't released at the same time as the game, you have to think that Gottlieb (along with Columbia Pictures which purchased them a few years back) believes that Krull the arcade game is strong enough to stand on its own. Although it also makes you wonder if the game's early

release is supposed to drum up some business and anticipation for the movie.

The story of the game is told in five consecutive scenarios. In the first, Colwyn, the hero of the movie and the game, has to pick up the five pieces of his weapon, a "glaive," from a mountainside during an avalanche. In the next part, Colwyn must rescue his army and shoot "slayer" monsters that are emerging from the planet's surface. In the third round he picks up his army and leads them to the "hexagon," shooting more slayers along the way, which is made more difficult by an elaborate forest maze that cuts down on maneuverability.

Next comes the hexagon screen, where the walls of this geometric-shaped structure are turning different colors. When the front wall turns black, Colwyn can shoot it to break it down. If he touches a wall, he dies (one of the best things about this game is the way Colwyn dies-he lets out a little scream and



wiggles around). If he shoots a wall when it's not black, slayers start coming out of the ground to attack. Finally, Colwyn must rescue Princess Lyssa from the "beast," who is shooting deadly fireballs all over the place. If you complete all the screens, the action starts all over again from the beginning, only there's an increase in difficulty.

Krull has much going for it but, unfortunately, there's a great deal going against it as well. The sound track and the effects are both fantastic and might be the best parts of the game. They're similar to Gottlieb's Mad Planets and even Reactor, which had throbbing, psychedelic beats behind them. In terms of controls, there are two eight-way



your toes.

sistency of its graphics. Although the return in order to continue the battle. avalanche scene has great 3-D effects and is easy to read, the second board is very confusing and cluttered. The white and grey bodies of the slayers as well as the missiles they fire, are very difficult to see against the background. The third

joysticks which are comfortable enough board's forest maze is unnecessarily for both shooting and moving. The pace constrictive, since Colwyn has enough of the action has been well-conceived, problems as it is maneuvering around. It's slow enough to give players time to Another drawback is the glaive since it think and fast enough to keep you on doesn't allow for rapid firing. The effect is similar to a boomerang; once you Krull's major problem is the incon- 'fire' it out, you have to wait for it to

> Krull's biggest problem, however, which it shares with too many games, is that once you pass through the first five boards, there's no incentive to go through them again. What you've seen is what you'll get, over and over again.



you've been reading about conversion an accelerate button can be used to inkits and a host of new machines, which can transform an old cabinet into something quite different. Well, now there's Tago's Zoar, a very fast-paced flying and shooting game that takes place on Earth in the year 2020 A.D. The story line is one that has become all too familiar about how Zoar, your spaceship, "is one of the last survivors of Federation defenses." Your job is to pilot the "swiftest, most deadly aircraft" around and destroy all the "Dynasty" invaders who have taken over the world.

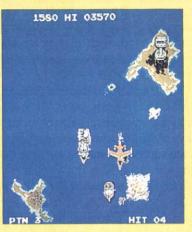
For controls you have a joystick similar to the one on Bump N' Jump. There's a stick which allows you to move left or right as well as raise or lower your altitude. A nice touch is that the lower the ship flies, the faster it attacks. However, there's a trade-off since your missiles also have a shorter range and it's easier for the enemy ships to blow you up. At higher altitudes Zoar's missiles travel further, but the ability to blow up surface targets diminishes due to the increased range of the air-to-ground missiles and the speed of the aircraft.

The other controls are a bomb button for sea vessels and ground targets, and a

In recent issues of Video Games fire button for air targets. In addition,









you do need some digital dexterity. The target values range from 500 points for a large airship or aircraft carrier, to 50 points for a control tower. What's odd about the scoring is that you get more points for blowing up the larger targets, which are easier to hit, than you do for you'll need more skill.

crease the speed of Zoar in a game where perspective is adequate, although it doesn't compare with a game such as Xevious. It suffers from muddy graphics and clumsy game play, and the explosions are unspectacular while the colors are dull. In terms of controls at a time when most games have slow, frustrating snail-paces, Zoar is almost too fast to endestroying the smaller targets, where joy. In many ways you might find yourself feeling that the game is playing Zoar's theme is a good one, and the by itself, since there is no way to an-

ticipate, aim, and fire at enemy targets. All you can do is fly around blindly, hopefully blowing up everything in sight, without getting destroyed in the process. The enemy fire is very difficult to see due to the inferior graphics, so survival can be next to impossible, but some of these graphics may appeal to players who are looking for a new challenge where hair-trigger reflexes are a necessity.

Centuri's



and "driving" games which tend to transcend any general categorization. Munch Mobile tends to fall in the latter group. It's not a Turbo or Pole Position by any stretch of the imagination and even Bump N' Jump had its own sense of game theme. First off, the car in Munch Mobile is undoubtedly the largest protagonist in video game history. Taking up a major portion of



There have been arcade driving games the screen, it features eyeballs for headlights and big hands which can reach out from one side or the other in order to grab a variety of objects along the way.

Taking Munch Mobile further away from convention is the lack of a steering wheel. Instead there are dual joysticks for control with the one on the left directing the car. The one on the right moves the hands to either side of the road. The object, pure and simple, is to drive safely down the road, pick up enough gasoline to stay alive (while avoiding other vehicles you might see), nab as many bonus objects (apples, cherries, acorns, live fish and money) as possible, and park your car back home in the garage. All of which is easier said than done. The hands aren't as responsive as they could be and often won't pick up bonuses even when they're within grasp. Driving while trying to pick up goodies is difficult (imagine doing it in real life and you'll get the idea) and the car crashes very easily on the narrow roads.

The best strategy is to only go for the fuel, since the Munch Mobile is a real gas guzzler and you'll also get a bonus for leftover fuel at the end of the drive. Grabbing fish which leap out of surrounding rivers is a safe bet, but most of the other bonuses are placed so that you'll crash if you try to grab them. The pace of the game is frustrating because the hands move slowly, while the car



itself moves pretty fast, especially in the later rounds.

This isn't to diminish the fact that Munch Mobile has some very comical touches. You can get a bonus for putting any used-up food into garbage cans and the graphics confirm that this a whimtree or another foreign object in its quest for food, the car winces in pain for a few



sical creation. If one of your hands hits a moments until it can use its hand again. All in all one of the strangest cartoon games around, with players having to control the gluttonous appetite of a comical car.

> To beat Munch Mobile, remember that it is a pattern game. Each board presents the same problems, so all you have to do is learn, memorize, and execute successful maneuvers. The problem with doing so is that the car is very cumbersome and has to be handled with a delicate touch. This can tend to detract from the fun of driving. In fact, Munch Mobile could have been a much better game if the car was smaller and the player could have seen further down the road so he could plan his moves in advance. Most driving games utilize a freewheeling style that presents a fantasy of what it would be like to drive 100 miles an hour down a street or 200 miles an hour around a grueling race track. But this isn't the case with Munch Mobile. There's a great deal to recommend in this game, but it could have easily been made into a much more entertaining and challenging machine.

reach all six floors in the cat building (cathouse just wouldn't be an appropriate term to use for a cartoon game) and reach the three levels on the screen. There are 18 rooms in the first round, with later levels offering different configurations of rooms and trampolines to make it harder for the mouse to pick up all the treasures. These include randomly placed stereos, home computers, television sets, paintings and more bric-a-brac.

Mappy has to clear the house of the items before time runs out, but the only indication of this is when "HURRY" flashes across the screen and the music plays faster. In hot pursuit of our hero is a gang of five pink cats (called Meowsky, or "naughty folks"), and a larger red fat cat called Goro, or "Boss the Big Bit." Mappy, the "Micro Police," can stop or stun the cats by opening or closing doors on them. Special "microwave doors" are the best way to score, since you can really rack up points if you catch a number of cats in the microwaves.

From the eighth round on down a bell appears at the top of the house. When Mappy jumps up and rings it, he freezes





Cats and mice have been in the cartoons for as long as anyone can remember. Tom and Jerry, Pixie, Dixie, and Jinx, Herman and Katnip, Courageous Cat and Minute Mouse, Krazy Kat and Ignatz. The list goes on and on, with video having tried its hand on a few cat and mouse games such as

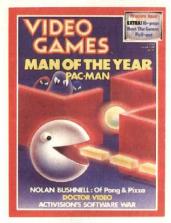
Mouse Trap by Exidy and now Mappy from Bally/Midway.

The basic scenario features Mappy, a police-mouse, whose job is to pick up valuables from a cat's house (one has to surmise that he's retrieving stolen goods). The controls are very simple with only a left-right joystick and a close/open door button to worry about. Mappy jumps on trampolines in order to





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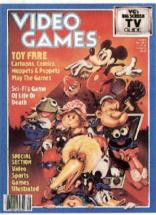


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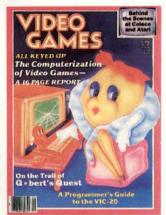


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the cats and receives even more points. Every third round is a bonus screen in which Mappy pops balloons while jumping around in a maze. He gets credit for popping all of the balloons. Additional points are scored for getting a bonus balloon, or completing the entire array before time runs out.

Mappy's main attractions are its visually striking cabinet, snappy sound track, and the relatively easy game play. The graphics are also above average just what you'd expect from Namco (whose other games include Pac-Man, Dig Dug, Pole Position and Xevious). As a cartoon game it's above average, but there is a problem in the theme: It's too nice. Mappy the mouse is a Pollyanna, the good guy cop who's out to stop the bad guy mice. Although the latter are always cast as the protagonists in the cartoons (with the exception, notably, of Krazy Kat, which really has none), I personally have always rooted for the cat. Unfortunately, I find myself doing the same with Mappy.

ARCADE WATCH

industry, the summer doldrums are quietly passing, giving way to increased activities and plans by manufacturers to ready themselves for the fall and winter. There is excitement and anticipation in the air because of the importance of the upcoming AMOA as a major showcase for new products. How much of the equipment will be videodisc inspired is anyone's guess at this stage, although a definite push seems to be underway by the majors. How committed given manufacturers are to this design approach will ultimately be decided by its cost-effectiveness and the response of you the players to the games to be released. However, no one is willing to state that these machines won't be a factor in the future.

As happens every year in the coin-op state-of-the-art movement with conventional video graphics and game play. There are rumors of a new system which may become an industry standard and offer the potential for some staggering effects. But the emergence of this generation of equipment may well come in the early spring, domestically, with Japan being the initial testing ground.

In addition, get ready for more diversity in arcade games, with some old themes continuing on the comeback trail. Sega, for one, is receiving excellent results from their new baseball game that might lead some to remember back to Midway Baseball and other efforts from days gone by. Even the acceptance of Stern's Mazer Blazer hasn't gone unnoticed by companies looking to expand their product lines with profitable On another front, look for some not- packages that might appeal to more too-distant developments in the next sophisticated and demanding audiences.

Century Electronics'

UNCH BACK

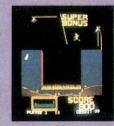
The idea of creating a game based on the Hunchback of Notre Dame was a good one. Maybe someday there will even be a great game based on the Victor Hugo classic. Until then, Century Electronics' convertible video system will have to do. With Hunchback, players must maneuver the lead, bell-ringing character via a two-way joystick and jump button as he travels over castle walls in an effort to rescue the beautiful Ezzzmerellda from the tower. Each successive board presents new and more difficult challenges to the Hunchback, who completes a screen when he rings a bell at the far right-hand side of the screen, before a torch-bearing soldier at the bottom can climb up and burn him.

In the first screen the Hunchback has to leap over fireballs in his quest. For the second screen, the need is to swing over a burning chasm (and win a 2,000 point bonus if it can be done before the soldier

reaches the top of the wall and pops a heart). The third screen finds the Hunchback jumping over gaps in the wall, while in the fourth, soldiers hide in the gaps and stick their spears up and down. The last screen features the Hunchback jumping over arrows as well as the now-empty gaps. After the fifth round, various elements of the previous screens are mixed together, for slightly different challenges, such as avoiding fireballs and arrows while also jumping over soldiers.

Scoring points is based on how quickly you can finish a round, although there is no time to inform you of how much





bonus time is left. A big weakness in the game is that no points are given for jumping over obstacles. The easiest way to score big, however, is to complete five rounds without losing a man. If you collect five bells in this way, you're awarded a super bonus worth 10,000 to 30,000 points.

By today's coin-up standards, Hunchback falls short of the mark. The graphics aren't that sharp and the sound effects leave much to be desired. As for scoring, it's mysterious and doesn't reward performance as well as it could. Overall, the game play is clumsy, the pace is slow, and the controls are limiting. Some saving graces, however, for the conversion kit creation are interesting progressions of difficulty and a theme that's original. Unfortunately, this probably won't be enough to allow Hunchback to find an audience in today's demanding market.





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THE FLIPS

A Silverball Time Fantasy

By Zelmo

inball has gone through so many births and rebirths it would be easy to wonder what all the surprise and excitement is about now that it's coming back one more time. As a basic form of coin-op entertainment, the undeniable fact is that pinball has remained a unique format whether you personally like it or have never considered even trying your flipper fingers.

And now, due to the over abundance of similar video games on the scene, with too few breakthroughs from the norm to choose from, pinball as well as other novelty attractions are gaining more attention than they have in the past few years. Throughout its history the coinop industry has been noted for a diversity of product creations bounded only by the level of available technology and players' desires.

At this stage in time, although video

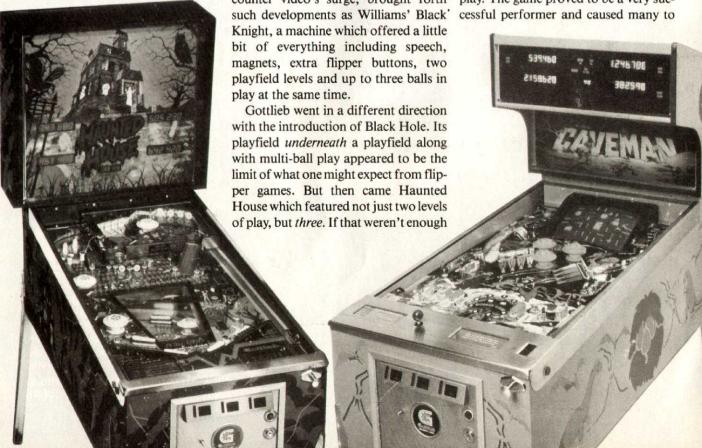
games haven't yet given up their top position in the arcades, the competition is heating up from other fronts as operators look to new alternatives in an effort to boost business. One direction has been the return of the pure arcade game such as Stern's Mazer Blazer, which incorporates the old shooting gun action with video on-screen images. Chexx is another variation on the home hockey games combined with foosballtype action for either head-to-head or team play. Other designs are waiting in the wings such as Sega's Champion Baseball with some very realistic action and images comparable to the best any of the home game systems have to offer.

Meanwhile pinball has taken a profound shift from the days when multiball and multi-level games predominated. This approach, which was taken more out of desperation in an attempt to counter video's surge, brought forth such developments as Williams' Black' Knight, a machine which offered a little bit of everything including speech, magnets, extra flipper buttons, two playfield levels and up to three balls in play at the same time.

to totally befuddle players, Stern brought forth Orbitor 1 with a molded playfield that resembled the lunar surface-bumps, ridges and all. Pinball was indeed in the middle of a period where almost anything seemed possible.

Gottlieb was the one company that offered a more realistic approach when they unveiled Caveman in 1982 as the first pin/vid hybrid. Suddenly, the possibility loomed to marry the two technologies together, but it wasn't until Bally released Baby Pac-Man, in a more conventional sized cabinet, that the play presented was fully integrated with true flipper action.

Within all these efforts were other games that tended to follow older precepts and design basics. One was Bally's Eight Ball Deluxe, a straightforward game with a fairly standard layout and a theme which was neatly tied into the play. The game proved to be a very suc-



and gloom for pinball.

The result was a more justifiable belief that basic, good old-fashioned pinball might well be the answer, rather than dressed-up models which emphasized gimmicks and not pure features. After all, taken independently, flippers, spinners, targets, kick-out holes, thumper bumpers and the rest, can be placed in a variety of configurations which will keep each model separate from any other. However, even this approach in design, is now giving way to the remake of classics.

Bally began the recent assault with a repackaging of Eight Ball Deluxe in a new stylized cabinet and, when the response proved favorable, they followed up with a redo of Centaur, due out in the next couple of months. Gottlieb,

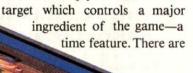
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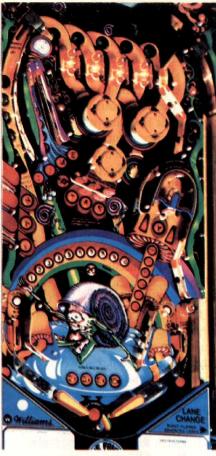
reconsider their projections of doom on the other hand, went back in time to resurrect Orbit and Royal Flush from the Seventies and more renditions of old favorites are ready to follow. As one member of this trio of domestic manufacturers still seeing pinball as a viable product, Williams has followed suit in many respects. Warlok was introduced as a remake of Blackout and now other models are being released which are either improvements of original designs and themes, or are more simplified and less gimmick-oriented. Witness games such as Time Fantasy.

Williams' Time Fantasy

Originally released for the European market at the end of last year, the reception to Time Fantasy was so strong that the company decided to see if the same thing would hold true on these shores. Borrowing some playfield features and placements from previous Williams' games, Time Fantasy offers some interesting twists, while still providing a steady build up in action and scoring potential as well as some solid pinball play and continuity from one ball to the next.

The layout of the board offers some 'game-within-a-game' features and begins with five top lanes where the right flipper button can be used to change lane lights. Just below are three thumper bumpers which provide some good rebounding action and the potential to nudge the ball back up through some unlit lanes in an effort to complete the sequence. Over at the left of this configuration is a deeply set lane with a





four letters (T-I-M-E) which need to be completed by shooting the ball up this inclined lane in an attempt to hit the target. Each time will gain a letter and the possibility of getting a maximum of up to 99 seconds of free play.

Over at the far left side is a curved lane that leads back up to the top of the board and also provides a bonus multiplier value when lit for even greater point totals. Move down to the middle of the field and on the left side there are three stationary targets (F-A-N), with another bank of three targets in the center (T-A-S) while over at the right, fronting a little turnaround, 'mushroom jump' is another target (Y). Spell out all these letters and a bonus multiplier based on playfield points will be awarded with values that increase from 2X up to 10X.

As for this little turnaround, going through the side that's lit, will increase special point values from 10,000 points up to a possible 100,000 points as well as a special for a free play. Finishing off the design is a conventional bottom with single lanes leading down to the flippers and the addition of a center post between the flippers for some extra nudging.

In terms of extra scoring values, completing the top five lanes will award players 30,000 points the first time around, 60,000 points the second time and 90,000 points the third time. In addition, the left side lane bonus multiplier also increases from 2X up to 5X, so a single shot, after completing the sequences, can bring in almost a half million points. Another touch with the top lanes is how they have been tied in with the timer feature. Before a lane has been lit, a light will move from one lane to the next. By timing the plunger release and getting the ball to go down the flashing lane, extra seconds are added to the timer display on the backglass for use if you're able to spell out T-I-M-E through that inner lane 'tube' shot.

This extra incentive is also present when completing any of the features on the board such as the F-A-N-T-A-S-Y. In fact, everything is tied in on the field, so that one feature might not only gain points, but also have an impact on some other feature as well. Even the right side horseshoe turnaround (the mushroom jump) offers incrementally increasing values, but enter in the wrong side (the one that's not lit) and the value already built up is subtracted for each ill-timed shot. The result is that a feature, which is in close proximity to the flippers, is suddenly much more precise for skill shooters.

In total, the Time Fantasy playfield offers some interesting possibilities and strategies. There is access to all features from the flippers, either left to right or right to left, as well as via reverses. The left side lane, which is the longest shot on the board, would have been much more satisfying with a spinner, but it still holds its own as a major place to go for increased point totals. And, what is nice, is the fact that it can be made from the left or right flipper.

The inner lane, or tube shot, with its slight incline is much more difficult to master, only because there needs to be enough velocity on the ball for it to make contact with the target. The problem comes from 'cradling' the ball, or saving it on the flipper, in order to set up a shot. Sometimes there isn't enough power on the flip to make it worthwhile, so that precisely lining up the ball is important if you're going to gain any reward for the effort.

On balance, there's more than enough to go around with targets spread out fairly evenly, however, there might be some impatience with the thumper bumper area since it can result in the ball getting hung up for repeated rebounding. This can be satisfying the first few times around, but if you're on a roll, it can impede your timing and be more frustrating than what it's worth.

By and large, however, Williams' hasn't missed the mark with Time Fantasy—a simple game with an abundance of features and the extra attraction of a time feature for extended play. The point values are nicely spaced out across the board and increased totals are possible if you build up from ball to ball, depending upon how an operator has set up the game. Some of the features might be held over in memory by more forgiving arcade owners, which infinitely aid this basic pinball playing challenge.

For old-time wizards there's more than enough present to keep up interest, while beginners shouldn't be too put off by the array before them. The sevendigit scoring should more than suffice for any flipper ace with a machine that has much to offer and much to master over the long haul.

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19 Pac Man		69 Turmoil	
20. Baja Buggies		70. Asteroids	
21. Crush. Crumble & Chomp		71 Dragon's Eye	
22 Hell Fire Warrior		72 Way Out	
23. Zork II		73. Claim Jumper	
24. Visicalc		74. Basketball	
25. Atari Writer		75. Survivor	
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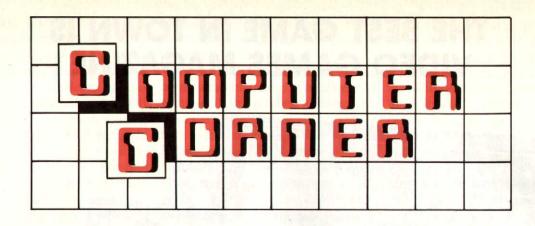
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Games for the Astrocade: An Evolutionary Profile

By Mark Brownstein

t the time of its introduction, the Bally Professional Arcade was touted as a game machine. Although the Arcade hit the market at about the same time that Atari was introducing its VCS, it never garnered the interest or market power which the VCS earned.

The commercial failure was due to many factors: it cost \$299, compared to the VCS' approximately \$199; it was on far fewer store shelves (so less shoppers knew of it); and it had quality-control problems, which have been detailed in earlier issues of VIDEO GAMES. The ability of the Arcade, now the Astrocade, to play games was far better than the Atari VCS and, in some cases, is still superior to state-of-the-art game equipment, despite its low resolution by to-day's standards.

At first, Arcade owners had to be content with playing the games that Bally/Midway trickled out. The games were good for their time, but most fall far short of today's standards. The original unit included Gunfight, a once-innovative game that has weathered the test of time as well as could be expected. Such games as Pinball, Football, Baseball/Tennis/Hockey/Handball (especially Baseball), Seawolf/Missile and Star Battle are still fun to play. Pinball (now called Astrocade Pinball) remains the best pinball simulation available on any home game system.

In late 1978, the Bally BASIC programming cartridge was released. With this cartridge and an optional interface, games could be designed by Arcade owners, recorded onto a tape cassette.

and played at a later time. Almost simultaneously, the flow of new game cartridges from Bally was slowing from a trickle to a virtual halt.

Those two events helped create a whole new, although initially small, industry: the design and sale of third-party Bally Professional Arcade games and utility programs. In effect, any Bally Professional Arcade owner who also had the BASIC cart and recording interface could design and debug a game in BASIC language. The debugged game could then be duplicated onto cassettes

and sold to others who had a similar set-up.

This is, in fact, what actually happened. The original, and longest lived, user's group newsletter, *The Arcadian*, began carrying advertisements and reviews of the newly available cassetteloaded software. Through the years, many individuals and firms have successfully marketed their own specially written programs through the *Arcadian*, and, in at least one case, Esoterica, Ltd. has developed to the point of setting up its own distribution network.



The new Astrocade BASIC cartridge, released in 1982, made a few improvements over the old BASIC cartridge. It allowed recording and loading programs at a much more rapid rate, making what would have been a five- to sixminute program into a 30 second load operation. It also had a built-in interface, which allowed connection to a cassette recorder without the need for a separate interface. In effect, all new owners of Astrocade units were potential game, and utility, program buyers, since the new units had the Astrocade BASIC cartridge included with the game system.

The earlier cassette-load games were programmed entirely in BASIC. The problems with programming in BASIC are that normally you can show only two colors on the screen at one time (although there are tricks to get around that problem), and all programs have to go through BASIC language. In this case, what happens is that the taped program is loaded into the cartridge, the BASIC cartridge then decodes the message and converts it into machine language, which the computer understands, and, finally, the game play begins. If you hit your fire button during a game, the BASIC cartridge has to convert that signal into a code which the computer can understand, and finally your shot appears on the screen. What this does is slow the game down.

The earlier games were, for the most part, slow to respond and fairly simple to play. This was due to a limitation in memory available for BASIC programming (approximately 1.8K) and the limitations already described. Another problem involved the occasional difficulty with loading the games into the Astrocade: although the Astrocade BASIC was more forgiving of errors, both systems were relatively sensitive to volume and tone settings. As a rule, the less expensive recorder/players worked best in loading through the BASIC cartridge.

In most of the following reviews, the tape comes with at least two games, one on each side of the tape. The games usually cost between \$10 and \$18 each; that's quite a value compared to the cost of cartridge-loaded games.

Flying Ace, Wavemaker's second game tape, is an interesting concept which makes very good use of the slow

response time inherent in BASIC language programming. You are in the cockpit of an old fighter plane (no jets here), and the enemy bi-plane comes into view. By steering your joystick, you line the evasive plane in the crosshairs, squeeze the trigger, and . . . zap (no kid-





ding, it either says "zap" or "pow"), the enemy spirals downward, leaving a black trail in its wake.

The slow response of the game is ideal, since it simulates what must actually happen in a real bi-plane—you give it left rudder, but it takes awhile for the plane to actually turn left. In order to shoot, you have to be a deadeye, and be able to keep up with the fighter. You are also running on a tight schedule—take too long to shoot the enemy, and it's curtains for you. Do a great job and you get bonus planes.

On the flip side of this tape is Clue, a thinking game: You are given a variety of clues and characters and must solve the mystery (whatever it is). By careful deduction, someone (this is a one- to four-player game) may solve the mystery. If you like slow brain games, with sparse graphics, computer Clue is a winner. Otherwise, stick to Flying Ace. Overall, this is a cart which is well worth the money.

Next on the agenda is Wavemaker's cartridge #12, with Castle of Horror on one side and Four Famous Freebies on the other. Castle of Horror has been described as an "adventure game." The basic premise is that you are locked in a room, surrounded by a "hoard of horri-

fying monsters" with "only your wits and skill to beat them."

Castle of Horrors presents a supposedly castle-shaped box, which is empty except for your man and a selection of monsters. Once you eliminate the monsters, you may pass to another room. In order to eliminate a monster. you must trick two into running into each other, or trick a monster into running into a block which you throw in its way, or trick him into running into a wall. If your timing's good, you can try to throw a block at the monster. The mechanics of the game are confusing: game play is not what it should be, since only one character at a time is moving on the screen (you can't tell which way the monster will turn until it's too late). Block throwing is also a slow, seemingly random device. Beating the game isn't easy. If you can time it right, and you feel you're outnumbered, there is a sometimes-open escape hatch at the bottom of the screen. If you use it, the message "Chicken" flashes on the screen, and the picture scrolls to another, identical castle. At higher levels, game play becomes more difficult. If you advance to these levels, however, you should probably have the play mechanics down pretty well...if it's worth the trouble.

The other side of the tape contains four games. The first, Invasion Force, is a Space Invaders-type game, with rows of blocks moving from side to side, and working their way down. You move a



device at the bottom of the screen and try to shoot the boxes before they reach bottom. The boxes don't drop bombsthey just keep moving. The second game isn't any better. Called Brick in the Wall, this game is a slow version of Breakout, with a great deal of disconcerting blinking which marks the progress of the "ball."

The third game is by far the most challenging. Mazemaker II gives you

randomly-drawn mazes which consist of vertical lines with breaks somewhere between the top and bottom, and a bunch of notches on the left and right sides. You have to guide a series of dots through the maze. If you touch a side of the maze, you lose that turn. Complete the maze, and it tells you how many tries it took. If you don't like a particular maze, a squeeze of the joystick will get you a new maze.

Game play isn't as easy as it sounds. The moving dots are not very responsive; the joystick is too sensitive to motion, and often an attempted move up, down, left or right turns into a diagonal move directly into a wall of the maze. To complicate things further, the dots increase in speed making for a quite challenging test of timing and hand-eye coordination. A refreshing change of pace, this maze doesn't even look like Pac-Man, doesn't play like Pac-Man, and doesn't even have anything to pick up on the way through.

The last game is **Sideswipe**, a slow car race game in which your car scrolls from the top of the screen *down* (instead of the usual bottom to top of most games), through a scrolling curved road. It doesn't play well. If you were to buy the tape, buying it for Castle of Horror (if you like this sort of frenzied game) and Mazemaker II should be reason enough. One other thing: the action in the castle is accompanied by some very organ-ish melodies, a nice additional touch.

Dungeons of Dracula places you in a variety of maze-like rooms. In order to win the game, you must pass through as many rooms as possible. Blocking your trail are bats and other ghoulish beasties.



As you travel through the room, you leave behind links of a chain. If you are able to surround the monster with the chain, you can then pick up the key which is also in the room, and progress to the next room. (If you get really stuck, you can always go out the back door, to a completely new maze—not worth any

more points, but safer.) Unlike the other games, this version comes with two basic variations of the same game: Each allows up to four players, one version allows each player to use a separate controller, and the other game requires all players to use the *same* controller.



If Atari's E.T. played more like L.T., Little Terrestrial it may have been much more successful. The object of L.T. is to maneuver the ugly little alien over, under, around or through a series of five screens leading to a telephone. The first screen is a stairstep screen, similar to the second climbing screen of Kangaroo. The second screen involves a very tricky sideways jump-and-climb maneuver in which you must transport L.T. from bottom to top along floors which have holes scrolling through them. T'ain't easy. The third through fifth screens are increasingly difficult. In the event you conquer all five screens, a message appears: "L.T. gets in trouble and is sent back to start over. THIS TIME WON'T BE AS EASY AS THE ONE BE-FORE." Although there is only the one game on this tape, it is an enjoyable, challenging contest.

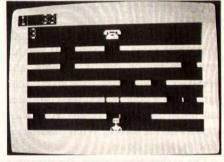
In the last year or two, game players have become spoiled. And that's good. The public has come to expect good graphics and good game play. In order to make the Astrocade jump through the same hoops as the competition, the software developers have increased their sophistication.

In a manner somewhat comparable to recent Atari VCS designers' developing new ways to get the VCS to behave graphically and in game play, the Arcade programmers have done things which were probably not imagined by the system's designers. Through special coding, the game information on the cassettes has been modified so that it bypasses the BASIC language (which slows the games down) and loads directly into the processor in machine code. The amount of memory has also been

increased by manipulating screen memory.

Screen memory is a special area of the hardware design of the Astrocade. About half of the memory is unused during normal operating of the system. The designers have, in effect, blacked out the lower half or so of the screen, and used it to store game data. The machine language programs have improved the degree of resolution and game speed. Although they don't match arcade quality, many of the machine-language (or quasi machine-language) games do play quite well.

In the area of graphics, particularly, L&M Software has done some remarkable things. Although they would deny it vociferously, L&M's Nautilus and Exitor's Revenge are both very similar games. Nautilus is, as the name implies, a submarine game. You are commanding a submarine, which can be moved across the bottom of the screen. Overhead is a scene of a little port, with battleships in the water. At the top of the



screen, a bat-like "battle star" (in L&M's words) is overhead, releasing a drone fighter. Your mission is to get under the drone, squeeze the trigger, and zap it. The game starts out easy, but gets increasingly difficult as it progresses.

On the flip side is a routine game of 3-D Tic Tac Toe, the review copy of which wouldn't load onto my Astrocade despite numerous tries. Perhaps their production copies will work.

Exitor's Revenge carries the Nautilus theme even further. After being defeated by the Nautilus, the attack now moves to a nicely drawn, stylized city. A battle star sits overhead, and Exitor's warriors sweep across the middle of the screen. You maneuver your weapon along the bottom, firing little dots. (I'm sure they are called something else, but that is exactly what you are shooting.) The dots scroll slowly up the screen — if they hit the warrior, it explodes and a new one is released. You are protected by a shield,

which the battle star continues to shoot. So you have to be careful to be in the right spot to shoot the warrior, while at the same time staying under an increasingly disintegrating shield. The ability to line up your little dot so that it hits the warrior isn't easy. Exitor's Revenge pro-



vides a complex graphic with interesting, though sometimes frustrating, game play.

On the flip side is The Mummy's Treasure - a virtually graphics-free game. It consists of three screens of 60 boxes each. You pick a box, and the display tells you what you got. The game is somewhat reminiscent of the old Concentration game. The object is to get to the dungeon of the Mummy's Castle and find the treasure before your opponents do, and before the Mummy gets you. There are three levels: the attic, dungeon and starting floor. Mummy's Castle is a slow, challenging brain game...with random Mummies thrown in to draw the game to a speedy conclusion.

The winner of the Graphics Derby so far must be L&M's Secret of Pellucitar. The object here is to maneuver your dot (impossible on a small TV screen) through a series of mazes from the outside of an underground city, into the



city, and finally to a passageway to the treasure. When you get there, you get your score and a ranking. If you hit a wall, you lose points, and the screen color changes. To complicate matters, sections of the internal maze randomly change, so that your potential shortcut may turn into a game-ending dead end.

There are five difficulty levels, and two versions: a one-player and a two-player game. The music by George Moses (more on him later) is terrific.

L&M's Candyman has only a very slight similarity to Pac-Man. In Candyman, you must maneuver your character through a candy factory, which has lifesavers (or whatever they want to call them) littering the corridors. If you pick up all the candy, you progress to a more difficult level. Complicating your progress are the jokers who put the candy there in the first place. If you touch a joker, you lose a life and your candyman takes a dive off the screen. At the right side of the screen, a gremlin hops around inside a cage (ala Donkey Kong).

With each new screen, the pace quickens, and more jokers and gremlins jump in, making the game increasingly difficult. Every 2500 points gives you an extra life and makes you eligible for a bonus round, in which the screen turns



blue, and you get a turn to eat the gremlins and jokers for extra points. What makes this game special is the animation. All the characters actually move; arms and legs move, the caged gremlin really jumps. At higher levels, there are as many as six characters in addition to the candy man, all animated and none blinking. There are 25 possible levels of game play. The game plays well, is graphically unique, and is a remarkable achievement for a tape-loaded game. On the other side of the tape is River City Gambler, a computer rolled game of dice. The instructions are not very clear, and could confuse you until you somehow figure out the mechanics. If you buy the tape just for playing Candyman and enjoy Gambler, that's great. Candyman is something of a milestone for all the animation programmed into it and is worth the money for that feature alone, if you are serious about collecting the best for the system.

Esoteria, Ltd. is one of the pointed by Super Slope.

oldest and largest providers of software for the Astrocade. They began with BASIC language programs, but also advanced into Machine language programs, with an attractive, well-designed package. Road Toad is their first Machine language effort; a Froggerlike contest in which you make your frog jump across the highway, without being run over by the cars, trucks, and occa-



sional dragster. The graphics are vivid, with cars and frogs moving on a black background.

Road Toad does have limitations: you must be careful that the car or truck is really past you before you jump behind it. Until you learn to wait a second before moving, you will probably lose your frog to the vehicle's exhaust. Second, there's a minor glitch in the program (which doesn't affect game play at the top of the screen, your frog's ghost may remain until swept clear by a passing car. Finally, and probably most important, this game, as with the other Esoterica games, doesn't really contain complete instructions. Operation of the program is different from the others reviewed here. With the other tapes, when a game is over, you squeeze the trigger to start over. Esoterica's games require you to press "go" on the keypad. Once you figure this out, resetting a game is easy-until you figure it out, reloading is a big bother.

Esoterica's Super Slope is a skiing game. You control the skier by moving your joystick in the direction you want him to move. If you move too far, his skis go against the direction of travel and he stops. With practice, you can get him down the slopes, around the trees and rocks, to the finish line. The sound of skis on snow, and the nicely scrolling patterns of trees and rocks are welcome features on this game. There is no second game on this cartridge—but if you like ski games, you shouldn't be disap-

PLAYING THE FIELD

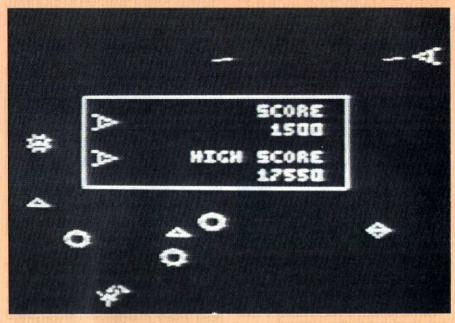
Snack-Man (American Peripherals/VIC-20)

hances are good that at this moment, an American family is debating whether they should purchase a VIC-20. The parents of this family are already sold. They appreciate the VIC's full-stroke keyboard, easy expandability, and low price. For the children, however, there's one question that matters: "Does it play Pac-Man?"

It doesn't. Only Atari is licensed to manufacture official home-vid versions of Pac-Man and, at least for the near future, they have no intentions of releasing anything other than Ataricompatible software. That doesn't mean that there aren't more than a few software vendors willing to fill the gap with their own versions.

One of the best known Pac-Man imitations, perhaps because it was among the first VIC-20-compatible knock-offs to hit the streets, is American Peripherals' Snack-Man. As the title suggests, this one-player game is similar enough to the original to be two steps shy of a whopping lawsuit from Atari. The rules are virtually the same: use your joystick to maneuver your gobbler through the maze to gulp dots while avoiding the pursuing ghosts. If you chomp down on one of the four power pellets located in the corners of the maze, you can turn the tables and munch on the ghosts for bonus points. There are scrolling tunnels, and even bonus "fruits," although the latter take the form of such inedible objects as evergreens and coffee pots. The graphics, which are drawn using a custom character set, present a reasonably convincing emulation of the classic Pac-Man visuals. Character movement is a little jerky and the sound effects are nothing special, but the game is admirably fast-paced, a difficult feat considering the limited memory of the VIC.

If a knock-off could be judged solely on the basis of loyalty to the original, then Snack-Man would have to be deemed a good choice for the VIC. There are problems with Snack-Man, though. *Big* problems. Two bugs in the program reduce Snack-Man from being a game of skill to being merely a game of chance. The first bug arises after an



energized Snack-Man has chowed down a ghost and the host has reappeared in its corral. Instead of staying in the corral like any sensible ghost would, the dumb spirit immediately re-enters the maze. All the savvy player need do is peg a ghost near the corral, and then position Snack-Man outside the doorway. The ghost will then happily march right into Snack-Man's eager jaws. But why should one wait outside for the ghost, when the second programming bug permits an energized Snack-Man to actually enter the corral? You can imagine the mayhem, not to mention the point accumulations, as ghosts reappear, only to immediately vanish down Snack-Man's gullet; this event being repeated over and over again in a matter of micro-seconds. One particular three-second bout in the corral increased my score seven-fold. I have nothing against high-scoring games, but Snack-Man hands the points to you on a silver platter.

Even these flaws pale in comparison with what has to be the worst joystick control in any known video game. The problem is not just a matter of a long time delay between one's movement of the joystick and Snack-Man's response on-screen. What's really annoying is that sometimes the little yellow creep doesn't bother to respond at all. Maybe I'm in the wrong. Maybe the program itself is showing me a better way to play the game.

If you absolutely have to have a Pac-Man game, you could probably learn to

like Snack-Man. The visuals are good, and game play is reasonably close to the original, with the exception of that wretched joystick. If owning Pac-Man is not your overriding concern, then I would suggest that you purchase one of the many better original games being designed for the VIC. Don't waste your money on Snack-Man.

The Count (Scott Adams/VIC-20)

Now that many adventure games are being enhanced with graphic elements and sound effects, text adventures are starting to be regarded as quaint relics, objects from a technologically simpler time. This attitude may pose a problem for the people at Commodore, who have translated Scott Adams' The Count from its original Atari version to a ROM cart for the VIC-20. Since The Count is a text adventure, pure and simple, many people might pass it over, thinking that it could never be as involving and challenging as some of its more technically-sophisticated descendants. These people don't know what they're missing.

The plot is familiar enough: you, the intrepid adventurer, are trapped within the walls of Castle Dracula. Wandering from room to room, you must gather the objects that will both protect you from the Count's lethal bite and help destroy him as well. You have 60 moves before sundown, the time when the old bat begins roaming around the castle. Finding the right supplies can help you stave off exhaustion and extend your quest in-

to the night, but without protection you become easy prey for Dracula. Three bites and you're out . . . permanently.

There are no splashy graphics and no flashy sound effects in The Count. You play the game with simple commands, such as "Open door" or "Drink blood" (yes, that's an actual command). The computer responds with a concise description of surroundings and events. However, what The Count lacks in graphics, it more than makes up for in challenge.

Completing this adventure is no easy task. Scott Adams' forte is to fill his make-believe world with items that can be used for other purposes aside from their primary functions. For example, in The Count, a paper clip may serve literally as the key to staying awake past sundown (and that's the last hint you're going to get from me). Surviving long enough to kill the vampire becomes a matter of using your imagination to come up with alternate uses for the items that can be found within the castle, while avoiding the numerous red herrings that serve no purpose but to waste "time" (read: moves).

In translating The Count to the VIC format, Commodore has wisely avoided meddling with Adams' tongue-in-cheek scenario. They have provided a save function, so a game in progress can be loaded on tape and resumed at a later date. Also included is the option of running the game through the Votrax Type 'N' Talk speech synthesizer. This feature, however, does nothing more than translate the on-screen text to speech. The adventure becomes accessible to visually impaired game players. A nice touch, but hardly enough reason to make one purchase the synthesizer.

With its wry humor and campy situations, The Count bears only a passing resemblance to Bram Stoker's classic novel. Instead, the game seems to take more of its inspiration from the gothic send-ups of film producer Roger Corman. Whatever the source, The Count confirms Scott Adams' reputation for creating adventures that are not only mind-boggling but also great fun. Yes, it's just words on a screen. But, in the right hands, simple words can lead to hours of pleasure.

Omega Race (Commodore/VIC-20)

Are you tired of space shoot-'em-ups? Have you started thinking to yourself, "I will personally smart-bomb the next manufacturer that comes up with yet another laser-loaded, alien-infested, deep-space dogfight?" Relax. Try to keep an open mind. Even after you think you've seen everything that can possibly be done in the area of cosmic conflict, a game just might come along with enough new twists on the genre to pique the interest of even the most jaded player.

Take Commodore's VIC-20 adaptation of Bally's Omega Race. The familiar elements are here: a laser-firing spaceship, not unlike the one in Atari's Asteroids; assorted nasties with varying degrees of aggressiveness; and a rather convincing simulation of zero-g space flight. The basic premise is also familiar: zap the nasties for points. What gives this one-player game the twist it needs is the locale. Omega Race takes place in a sort of deep-space racetrack. The center of the screen is blocked off from game play by a large rectangle, and force fields rim the screen's perimeter. If you try to exit the playfield, the force fields bounce you back in, like a rubber band. Blocking your way around the course are your adversaries. Slow-moving Droid Ships bunch together, making portions of the track look like rush hour on Interstate 95. Command Ships move a little faster, fire back at your ship, and lay mines that must be either avoided or shot. Dally too long in dispatching these foes, and one of the Droids will turn into a swiftmoving Death Ship. Death Ships zip around the playfield, laying mines and moving so fast that it's almost impossible to peg them.

The trick to Omega Race is learning how to maneuver your ship. You can't just fire up your engines and head straight down the course, since this action invariably sends you crashing into one of the many obstacles that litter the track. Instead, you must learn how to use the force fields, careening your ship off one of the barriers to slow your craft's momentum. A successful game becomes a matter of strategy: you must quickly calculate which angle of deflection will help you to avoid obstacles while putting you in a position to zap as many enemies as possible.

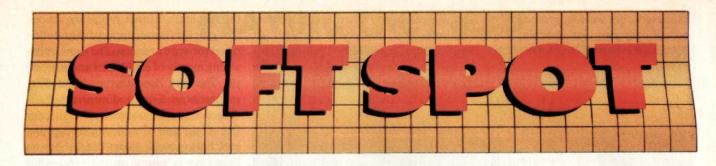
The folks at Commodore have virtually bent over backwards to bring much of the arcade game into their home version, even down to the inclusion of the original's attract mode sequences. The graphics are an impressive imitation of vector-scan imagery. The sound, consisting mostly of explosions and a riff on the Twilight Zone theme, is, at best, monotonous. Commodore gives you the choice of starting out with either three or five ships, and of selecting foreground and background colors (dark blue on light blue is easiest on the eyes, while blue on red makes a dazzling display that's also incredibly hard to play). You also choose between playing with either a joystick or paddle control. Take my advice: if you don't already have a set of paddle controls, then do yourself a favor and buy some.

With all that this game has going for it, it's amazing that Commodore let slip through a few annoying programming errors. When your last ship has bitten the dust, you had better take a quick look at your score because, once the attract mode begins, all scores are lost forever. Only the highest score for the current game session is saved from oblivion. Similarly, you would have to take a speed-reading course in order to get through the message announcing your advancement to the next level, the information being on the screen for a whole second!

A more serious problem is that this game has no option for changing the skill level. You can reduce the number of ships, or change screen colors to make the game more difficult. However, there is no way for an advanced player to skip over the slower-moving levels that begin the game. Maybe Commodore was sticking to its philosophy of translating arcade games as faithfully as possible. But even arcade games, such as Tempest and Food Fight, permit the player to select difficulty levels. The home gamer should be permitted the choice, too.

As an arcade game, Omega Race never achieved the monster-hit status of games like Asteroids or Defender. Yet. in combining the speed of racing, the action of a shoot-'em-up and the strategy of pool, Bally/Midway developed a game that has become something of an arcade perennial. Commodore has successfully captured all of the fun of the original, and presented us with a game unique enough to tempt even grizzled veterans of the space wars back into the pilot's seat.

-Dan Persons



New Challenges Heat Up the Waning Days of Summer

By Perry Greenberg and Dan Persons

s the home game industry continues to undergo remarkable changes, companies seem to be getting the message that what might have been acceptable in the past, isn't enough for now. Atari is ambitiously acquiring the rights to some of the better known and most popular arcade games, and converting them to excellent home renditions for both the 5200 and the 2600. Although it's been a long time coming, the company is readying an expansion

Activision, meanwhile still maintains the knack for creating its own games with familiar themes and stunning graphics as well as play action. Using this formula they've managed to come up with winners even without the arcade recognition other companies seem to be relying on now more than ever before. Parker Brothers, for one, is taking a cue from Atari and their own former successes with such familiar titles as O*bert, Popeye, Tutankham and others, not only for the VCS, but also in multiple formats for the most popular computer systems.

5200 owners to play all VCS games.

Coleco, still the hottest company in the industry keeps coming out with more arcade hits which are embellished by superb graphics and effects. Another of the original software companies, Imagic isn't standing idly by, but is creating games for what appears to be every home computer and game system under

module that will allow

the sun. A relative newcomer, CBS Electronics, is making a notable push combining Bally/Midway licenses with inhouse creations that will take advantage of their RAM Plus design software capabilites.

Whether developed for game systems or computer use, it appears clear that the video game market is prepared for another major push in the coming months. Sega and Konami, better known for their arcade games, have realized that licensing may be alright for the competition but maybe they have the inside track with the fame and reputation they long established in the arcades. All in all, it looks like we'll be seeing a mixed bag of offerings with more sophisticated game play, better graphics and stronger story

In fact, this month's reviews probably reflect the trends and mood of the times better than anything else. Whether it's chasing a thief through a department store, directing a dolphin from the clutches of a deadly octopus, or Dracula through the night looking for unwary victims, video games for the home are keeping players in on all the action.

> Keystone Kapers (Activision) Keystone Kapers is

another delightful offering from those fun loving kids at Activision. This game is a comical romp involving Officer Kelly, a keystone cop figure, in hot pursuit of Harry Hooligan a dastardly villain all deck-

ed out in prison stripes. Harry is robbing Southwick's department store and Kelly must apprehend him before he escapes off the roof.

Kapers utilizes a four tier scrolling screen with Activision's usual superb graphics. Kelly must chase Harry by utilizing the elevators and escalators to pursue his quarry. However, impeding Kelly's determined pursuit are obstacles he must hurdle or duck, as well as a 50 second clock counting down the time he has in which to catch his larcenous nemesis. Points are awarded for every perpetrator caught: "Krooks" 1 to 8 are worth 100 times the amount left on the timer. "Krooks" 9 to 16 are worth 200 times the amount left on the timer. After your 16th arrest each "krook" will be worth 300 times the amount left on the timer. Also, 50 points are awarded for each suitcase or moneybag recovered. And when you reach 10,000 points a bonus cop is awarded.

Elevators and escalators are Kelly's means of moving from floor to floor. The elevator can move him up or down the three floors, but can't raise him to the roof. To get to the roof he must use the escalator which can prove to be a mixed blessing. Escalators are located at the far end of each floor and although "krooks" can move up or down on them, Kelly can use them only to ascend. As for obstacles, there are beach balls, shopping carts, old-fashioned cathedral radios and flying toy biplanes. Colliding with any obstacles, except a biplane, results in the loss of 9 seconds. A biplane collision is far more costly and results in the loss of a cop.

Elevators are your most useful tool since they give you up-and-down access to all three floors. But you can't linger in them for too long, because a somewhat cautious Harry will not proceed across the elevators path while Kelly's waiting there. Kelly's trump card, however, is the department store security camera system which in essence is your video game radar screen located under the playing field. By keeping a close look on the screen you always know the whereabouts of the "krooks." But avoid gluing your eyes to the radar screen because they only show you Kelly, Harry, escalators and elevators; obstacles are not represented on the screen.

To enter elevators you must push the joystick forward and push back for exiting. Jumping is executed with the red button and ducking is accomplished by also pushing the joystick back. Since biplanes are your costliest obstacles



remember that they come in pairs so prepare to duck a second time when you encounter one. Use the elevators extensively but remember to exit on a floor below Harry when he's far out of range. If you stay in the elevator Harry will reverse direction on you and make a quick retreat to the nearest escalator.

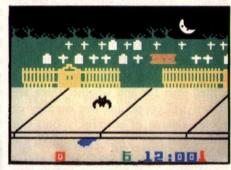
Keystone Kapers is a visually well-

appointed game that requires strategy and dexterity for high scores. It's a thoroughly enjoyable cart with excellent graphics, sound effects, and playability that seems to confirm Activision's reputation as a company which tends to get the most out of the Atari 2600-P.G.

Dracula (Imagic/Intellivision)

A canny attempt by Imagic to tap the pockets of the hordes of video game players who are also horror movie fans, Dracula imaginatively utilizes Bram Stokers' epitome of evil.

The player transports Transsylvania's favorite son from a graveyard, where he arises, to the streets of a quaint city



where he looks for victims to quench his ceaseless thirst. Dracula is moved via the disc controller, with the object being to bite the town's citizens when the bottom side buttons are depressed. When the left side button is pressed, Dracula's jaw will open and close. You must then guide him to any unsuspecting victim's neck, crunch down and score 50 points replenishing his supply of nourishing blood. If you press the bottom side button a bite will turn your victim into a zombie who, for a few seconds, can be a valuable ally. If he manages to make contact with one of the pursuing constables he will eliminate them resulting in an additional 75 points.

The constables who show up in later rounds are wonderfully drawn keystone-cop looking characters who chase after Dracula, twirling their night-sticks and throwing wooden stakes at the count. A well-aimed stake will momentarily immobilize Drac, causing you to lose valuable time. Time is an important element in this game because you must get the Count back to the graveyard before sunrise, or you'll lose him and the

The Count is well-represented in this game as a black-caped figure who's open mouth rivals that of the shark in Jaws.

He also moves with an ominous gate that befits this malevolent legendary figure. A nice programming touch is that Dracula doesn't have to wait for potential victims to go sauntering by; instead he can lure his prey out of doors by approaching houses where there are eyes peering from second-floor windows. When Dracula positions himself at the door of a victim's house you'll hear a knock and a victim will then exit. Dracula is stunned momentarily by this abrupt exit but can then pursue the fleeing person.

Each time you bite a victim, a chart appears at the bottom of the screen revealing the number of victims left, the time left to play, and your remaining blood supply. When Dracula's blood supply gets critically low he turns white and must get a fix fast by biting a victim or he perishes. It's also imperative that you get the old blood sucker back to the graveyard before 6:00 A.M. So press often on any key to display on screen a chart showing his present status and watch for the sky to turn red indicating that the hour of his return is near. In addition, Dracula can change form and turn into a flying bat when you hit the topside button. He can move faster but you must be on the lookout for purplecolored flying vultures that will cart him off and will end his diabolical sojourn.

If a vulture nabs the Count, quickly hit the top side button again to change him back to human form. The vultures are powerless against him then. From time to time you'll see a white wolf chasing after Dracula. Although the booklet warns that a bite from the wolf slows Dracula down, I've yet to see any harm come to him from a wolf so ignore them when they approach. There are twoplayer modes available in this game where one player controls Dracula and the other the victim. The player controlling the victim is awarded five points for every errant bite Dracula takes.

Imagic has proven once again that it can make captivating games that make extraordinary use of Intellivision's graphic capabilities. In fact, Imagic's graphics easily rival those of Mattel's for its own system. The game play does provide enough variety to sustain interest, however, the controllers are difficult to use being less than totally responsive for sudden rapid movement. The game looks good but the play does lack the exciting pace of arcade-patterned games. Yet you do get a fiendish sense of accomplishment when you can get the old vein sucker back to his crypt before dawn.

—P.G.

Space Dungeon (Atari/5200)

Space Dungeon is a super fast, exciting, chaotic game that requires the reflexes of a circus juggler and the strategic mind of a Prussian field marshal. The object is to venture into different chambers of an intergalactic



"dungeon" loaded with formidable enemies. What you must do, as in Venture, is collect the treasures in these rooms by making contact with them. Each room has several openings in which to pass to other alien-filled chambers.

You're armed with a rapid-fire cannon whose fire direction is controlled with the right joystick. Atari must be considering some sort of brace for the joysticks for this game, because, without it, there's just no way you can control both sticks simultaneously, unless of course you have another pair of arms. The best way to play Space Dungeon, though, is to get another pair of arms, preferably attached to a friend, and have one player control the right joystick while the other controls the left stick that moves the ship. It's a great two-player game when played in this format. But, as a one-player game, it's going to take some getting used to, even if you can nail the joysticks down in order to shoot with one and move with the other. An accomplished Robotron veteran, however, may find that this is the home game he's been waiting for.

As in Venture you rack up points by collecting treasures and killing anything that moves, and you move on to different levels. In Space Dungeon, however, you don't have to succeed in cap-

turing every treasure in every room to do so. Certain rooms have a collect "Bonus Cube" in them. If you pass into a room with a cube and enter the cube you're transported to the next harder level and any treasures you've accumulated are awarded to you by their point value. Leaving a level prematurely is ill-advised since the next level is tougher and if you remain on an easier level long enough to visit every room you get 10,000 points and a new ship.

Losing a ship before you enter a cube results in all your treasures being transferred from the red treasure box located above the screen (which keeps track of the treasures you've acquired) to the room where you were zapped. Next to the treasure box is a map that depicts a bird's-eye-view of the level, telling the locations of the ship, the collect bonus room, the room containing the lost treasures, all the rooms you have visited thus far and whether there are rooms still containing live enemies or rooms cleared of enemies; rooms not visited and the "Thief's" location. On higher levels, you'll encounter a crafty Thief who steals treasures before you enter the rooms. He's immortal but if you manage to shoot him he'll drop his treasures but leave behind guards who will attempt to prevent you from picking up his lost loot.

In this game, you'll face a host of enemies, the most conspicuous being the Pikers, snowflake-like beings who can only be destroyed entirely with a succession of shots. When battling a Piker make sure you're far enough away so you can get off enough shots to destroy it entirely or you'll be done in by its lethal touch. Along with Pikers you'll face Corner Zappers, Deathsquares, Executioners, Enforcers and the deadliest foe of all, Spore Cases, which release three deadly spores at one time.

The game may sound complicated but playing it is rather simple. What you must do is travel from room to room and kill as much as you can, collect what doesn't move and split before you're wasted. Once you see you're overmatched make a speedy exit to another chamber. Don't be a hero and stay in any chamber for more than a second or two if you see that you'll be easily overwhelmed. "He who fights and runs away" seems to be the motto for success in Space Dungeon. As in Robotron

shoot while moving away from your target and get used to firing and moving at the same time. Also try panning the room with your laser cannon when confronting the Corner Zappers and make sure you get them all or they'll regenerate. Don't bother remembering those rooms where you've managed to erradicate all your adversaries because they move around from room to room as you do. So you may find that when you're approaching a room that before was a haven, you now may be entering an ambush.

Space Dungeon is an exciting and difficult contest whose riveting action may be more than most players can contend with alone, but it works beautifully as a two player cooperative game. -P.G.

Dolphin (Activision)

Dolphin by Activision cleverly incorporates the unique traits of the lovable sea-going mammals into another entertaining and graphically stunning game. We all know that dolphins are fantastic



swimmers and guide themselves along the murky depth of the ocean by using their built-in sonar. In this game your joystick-controlled dolphin must elude the lethal grasp of a giant deadly octopus by using this sixth sense to negotiate his escape from those fatal tentacles.

Moving the joystick up and down guides your dolphin to the top or bottom of the ocean, while left and right movement changes the swimming direction. As you slice through the water, the screen scrolls swiftly, in fact, you not only have to contend with the octopus, but also with vertical walls of seahorses that will push you, little by little, into those waiting tentacles. There are gaps in these walls that will permit you to maintain a healthy distance from the octopus, as well as gain points.

The problem is that, with the screen scrolling so quickly, waiting to see where

the gaps lie won't give you enough time challenging for quite some time. to guide your dolphin through them. Instead, you must rely on the dolphin's sonar, which in this case takes the form of audible cues on the soundtrack, that will inform you of the location of the gaps long before the walls show up on screen. You listen for the signal, raise your dolphin to the level that you think will have the gap, and wait for the wall to appear. Minor course corrections might be needed, but once you become accustomed to deciphering the tones, you'll find yourself maneuvering the course as if you had been born underwater.

The sonar also lets you know when a seagull is about to fly overhead. Take your dolphin to the top of the ocean so that it leaps up out of the water and touches the seagull, the dolphin becomes "energized" and can chase after the octopus for a few seconds. Nipping the octopus before time runs out nets you bonus points and forces the octopus to go off into a corner to sulk.

There are also underwater currents. which show up as arrows moving from the left-hand side of the screen to the right, or vice-versa. Positioning your dolphin in the middle of an arrow moving in the direction of your swim will result in a small speed boost, while moving in the opposite direction will only slow you down. These currents also affect the octopus, so it becomes important that you develop techniques to steer the octopus away from the booster currents, and into those that will slow him down. Elude the octopus long enough and the game continues at a higher difficulty level.

I know video games are supposed to be great for developing eye-hand coordination, but Dolphin is the first game that requires ear-hand coordination. By using both my eyes and ears to play Dolphin, I found that my concentration was intensified past the level I normally give to game-playing. Happily, there is as much to look at in Dolphin as there is to listen to. The well-drawn dolphin, octopus and seahorses inhabit a coralstudded ocean, complete with lapping waves and a sunny, cloud-streaked sky. With four difficulty levels, plus the use of the difficulty switches to change the strength of the underwater currents, there's enough here to keep the game

The current crop of underwater games have, for the most part, left me cold (if not wet). Not so with Dolphin. Instead of creating another aquatic rehash of Defender, Activision has created a chase game that cleverly incorporates sound as an active element of play. I hope we will be seeing, and hearing, more of this technique in the future.

Fireball (Starpath)

When Starpath releases a game entitled Fireball for their Atari 2600 compatible Supercharger expansion module, I overlook the pretty artwork on the box and the elaborate description of a juggler's competition that prefaces the instructions. Instead, I put the tape into my cassette deck, and after just one game, two words spring immediately to mind: "Super Breakout."

But wait, there may be more to this game than is readily apparent. Although the game play of Fireball is very familiar: at the top of the screen are rows of bricks, at the bottom, a little juggler. Using the paddle control to move the juggler back and forth, you flip brilliantly colored red and orange fireballs up at the bricks, knocking them out one by one, and sending the fireball back down the screen. If you fail to catch a returning fireball, a hook extends from the left side and you're rudely yanked off the



stage. There are several wall configurations, including simple, solid wall, one with a pair of balls trapped within two cavities, and another where, for each brick you knock out, the wall progresses down the field. Up to four people can play. A flick of the difficulty switch permits players to determine how close the juggler has to be to a ball in order to

So far, there's nothing that a Super Breakout player hasn't seen before. In

fact, anyone familiar with Breakout may at first be very disappointed with the gameplay of Fireball. Unlike Super Breakout, where a player can use the paddle to change the ball's angle of travel, and where each layer of bricks can drastically change the ball's speed, the fireballs of Starpath's game always travel at the same angle and at a shockingly slow speed.

However, there's good reason for the casual pace of Fireball. Unlike Super Breakout, which permits a maximum of three balls to be in play at one time, Fireball permits a player to juggle up to six balls at once. It's okay to have fast speeds and tricky angles in a game where you only have three balls to keep track of, but when you're playing a game where there's a chance that six balls will be descending at once, that "casual pace" can suddenly seem fast enough to satisfy anyone.

The trick with Fireball is not to waste your time tossing one pokey little ball up at the bricks, but to head straight for the good stuff: juggling four, five or six balls, Not only is the challenge increased by trying to juggle the extra balls but, with each ball added, the number of points you get per brick increases.

Getting the extra balls on-screen is easy enough: just flick the action button on the paddle control three times for each ball you want to add. Balls are added automatically after the completion of each wall or, in the case of the advancing wall game option, after the wall has descended a certain number of layers. The truly masochistic can play a variation called Cascade, where five balls trapped in five cavities are released as the wall is broken down.

People who already own Super Breakout need not run out to purchase Fireball since it's not that different. However, if I had to choose between one or the other, I'd take Fireball. The game play, using variations that are just not possible in Super Breakout, is complex and challenging. The graphics are well done, with a nice contrast of movements as the fireballs perform their serene aerial ballet overhead, while the juggler maniacally shuffles back and forth below. There's even a splendid title screen that uses all of the 2600's 256 color variations. Fireball may be a derivation but it's good.

WHITE EFFERRE

MONTY MAKES A DEAL An Old Standard Enters The Electronic Age

By Linda Moran

onty Plays Scrabble, the table-top computer version of the legendary board game, marks a quantum leap forward in state-of-the-art microcomputers. In the areas of word length, search and placement, Monty is a maverick. He can spend up to four-and-a-half minutes per move and utilize a comprehensive word list (a total of 44,000 words in storage) digested from no less than four major dictionaries plus *The Official Scrabble Players Dictionary*. The result is a game which has transcended previously believed boundaries and constraints, while also enhancing basic play characteristics of the original Scrabble.

When discussing the concept and philosophy behind the game with Robert Walls, the creator and president of Ritam Corporation (P.O. Box 921, 207 W. Grimes, Fairfield, Iowa 52556), *Video Games* was able to get a better idea regarding the evolution of this computerized entry.

Thirty-four years old, Walls came up with a concept of making an opponent for all the famous board games in the world. This idea began to take shape with the formation of his own electronics company about three-and-a-half years ago; Monty Plays Scrabble has been under research and development since then. Wall's aim in making Monty was to create a personality players could relate to and play against. He wanted a friendly character that the public would be comfortable with, even if they had no previous computer experience, and wasn't all that awesome but rather an inviting experience.

One of the unique points in Ritam's marketing philosophy is that the company is seeking a more mature audience while most of the industry is doing the reverse. Most manufacturers are catering to younger individuals by turning out already popular coin-op games for various computerized renditions.



Ritam's strategy, however, is to make its computers more personal than most by including the entire family. To this end, "although Monty is a registered trademark owned by Ritam, and Monty Plays Scrabble is a product, we often refer to Monty as if he were a real person," explains Walls.

In theory, the idea of an electronic opponent, such as Monty, to bridge the gap which might exist between man and machine seemed logical and straightforward enough. But meeting the programming challenges in developing Monty Plays Scrabble was anything but a simple task.

Ritam's approach was cautious, proceeding ahead a few steps at a time. They decided to initially market a board game that was popular and simple to program, before then manufacturing it as a disk compatible with Apple and TRS-80 computers. Monopoly was chosen be-

cause it was easy to write a program for—given the fact that there aren't an infinite number of possibilities to draw from and one doesn't need a huge vocabulary to play as is the case with Scrabble.

When Monopoly proved successful with the public, Ritam went ahead and manufactured a Scrabble disk for Apple II and TRS-80 models I and III for about \$35. As time went on, however, the market seemed more and more ripe for a self-contained Scrabble computer.

It's here that one might question the practicality of buying a tabletop version of the legendary board game which retails for around \$150, when you can purchase a Scrabble disk for less than one third the price. Explains Walls, "Ritam wants to reach everyone, not just those who own a certain kind of microcomputer because, while there may only be a few hundred thousand Apple and Radio

Shack owners, there are some 33 million active Scrabble enthusiasts out there."

Ritam, feeling strongly about its marketing strategy and philosophy, approached Selchow & Righter, manufacturers of the classic Scrabble game, for the exclusive licensing rights to the game. Their offer was accepted and a partnership was formed in 1982. But before the companies officially introduced the new product at the Toy Fair last February in New York City, two very mechanical but critical issues had to still be addressed. The first concerned the problem of word compression—the module had to be capable of storing 12,000 words in a space that previously contained only 1200. The second issue to be dealt with was the time factor. After all, even if a word is brilliant, what good is it if it takes the computer three hours to make its move? Last February, when Ritam Corp., along with Selchow & Righter, premiered its showcase toy, what they introduced was a very lightweight computer with extremely heavyweight capabilities.

Monty Plays Scrabble is a portable computer that does everything from challenging word configurations to offering opponents hints and encouragement. This self-contained, two-pound unit is capable of performing 2,000,000 calculations per second and stores 12,000 words. While not playing (or thinking, as the manufacturers prefer to call it) it turns off to conserve battery life.

Monty is a game that can be played solo against the computer, or with friends, using a special score pad included with the computer or with the standard Scrabble board game and tiles. It has four skill levels ranging from not easy to extremely difficult and the 12,000 word vocabulary is expandable to 44,000 via additional modules. The module displays moves and letters on an LCD screen which, incidentally, shields your letters from other opponents through its light-sensitive shading. Monty assigns tiles and keeps track of scores and, if you're not careful, can win more often than he loses depending upon the difficulty setting. This clever little personality beckons his challengers to come back for more-maybe at a higher skill level if you're game.

The computer operates on four "C" batteries and is AC adaptable. It includes a special feature to conserve bat-



tery life and can accommodate the challenge of up to three players at a time. Strategically, Monty plays an extremely precise game by going for double and triple word scores, whenever possible, while building as tightly as possible on the board, thus leaving few oppor-

tunities for players to strike back the longer the game goes on. And the higher the skill level, the more evident this trait becomes. So if you're bored by what you have been playing, Monty Plays Scrabble (about \$150) might just be the word of advice you've been looking for.



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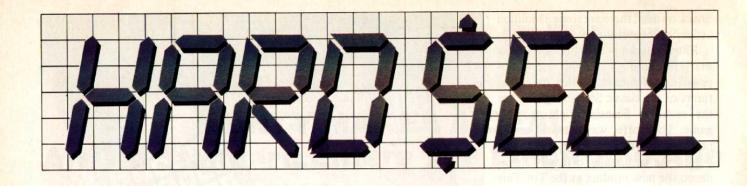
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Getting To The Core Of The Apple Ile

By Jonathan Sacks

t has been seven years since those two brainy kids, Steve Wozniak and Steve Jobs, got together in a California garage and constructed the first Apple computer. The machine that they built from off-the-shelf parts was modified three times, eventually to be called the Apple II-Plus, and considered to be one of the biggest-selling personal computers in history.

But even though the Apple II-Plus was at the forefront of the computer boom, no machine—no matter how brilliantly conceived—can remain innovative in today's rapidly expanding computer industry. Since the first Apple was introduced, however, scores of new machines have come along offering sophisticated features at a much lower price. Thus, the Apple II-Plus, with a limited memory and a somewhat prehistoric teletype-style keyboard, was ripe for updating.

Apple's new personal computer, introduced in April, is called the Apple IIe. The "e" stands for enhanced, which is a fair assessment of the situation. Apple hasn't so much built a new computer as it has once again modified an old one. But while the IIe still suffers from some generic Apple weaknesses, it does represent quite an improvement over its predecessor.

Specifically, the IIe improves upon three shortcomings of the II-Plus. The old Apple came standard with only 48K of Random Access Memory, meaning it could only hold about 48,000 characters in that part of the computer's brain accessible to the user. The machine also



had a teletype keyboard sporting 53 keys which only produced upper case characters, along with a screen display of 40 characters per line. Because of the latter characteristics the II-Plus was particularly ill-suited for word processing, a function more people were wanting their computers to do well. Writers, as a rule, prefer upper and lower case letters, with the average typewritten line being 60 characters long, or 20 more characters than the II-Plus screen displayed.

The IIe's basic unit, which sells for \$1,400, boasts 64K of RAM which is pretty much the industry's minimum standard for home computers at this stage of development. RAM is expandable to 128K with a \$300 plug-in circuit card that also gives the screen an 80-column display—a must for anyone who plans to use his computer for serious writing. The 80-column card is

available without the added memory for under \$100. And, mercifully, the IIe is also available with an IBM selectric-type keyboard—63 keys that produce upper and lower case characters. The keyboard includes Delete and Tab keys, as well as four cursor keys rather than the two left and right cursor keys on the II-Plus. It does not, however, include a numeric keypad, already an industry standard, although a calculator-type keypad is available as an add-on.

There are two keys on the IIe called Open Apple and Solid Apple which, when used in combination with other keys, will enable the computer to perform special functions. For example, pressed in the proper sequence, the keys generate a 20-second self-diagnostic test. Pressing Open Apple with control and reset will restart the computer as if it had been shut down and switched on again. The two keys may also have special functions within a program. For example, in a game program, they might serve to fire bullets, while in a word processing program one might erase text.

The list price of the IIe is somewhat deceiving, since you can't do anything with the computer until you buy a disk drive and a screen. So Apple offers a \$1,995 promotional package which includes a IIe with 80-column display, a single-sided, single-density disk drive holding 143K, and a monitor and stand. For those who don't demand pure Apple, there are bargain monitors and disk drives that can drop the system price to well under \$1,400.

The IIe boasts improved printed cir-



cuitry ensuring cool running and less downtime. In addition, two large integrated circuits replace 79 smaller circuits that were inside the II-Plus. The company also redesigned the back panel so that cables attaching peripherals feed neatly into the machine.

Much of what can be said about the He in operation, both positive and negative, is what was said about its predecessor-minus, of course, the criticism about keyboard, memory and line display mentioned earlier.

Apple offers some fascinating, but expensive, options in its personal computers. There are several expansion slots that allow, among other things, the He to run software designed for other operating systems. By adding cards with additional circuitry the He can also be customized with such options as a numeric keypad, printers, joysticks (for games), audio and video devices and mainframe interfacing. Apple also offers some impressive high resolution graphics.



But these features cannot overcome the fact that the IIe is painfully slow at loading programs. People who have never used computers before, however, might not notice the extra seconds the machine takes to work things through. More noticeable is the fact that the characters produced on the Apple monitor are fuzzy and tiring on the eyes.

These complaints aside, Apple has two primary strengths. The first, although not the one most frequently cited, is that the company thinks of the people who will use its machines. Instruction manuals for the He and for the new software that's available (which, by the way, will not run on old Apples) are easy to understand and packed with clear, attractive graphics. The documentation inside the Apple manuals is superb, arguably the very best in the industry. For advanced programmers, understanding how each circuit works is sometimes the difference between success and failure. Apple tries to help. For the neophyte, the mysteries of computers are clearly and pleasantly presented. Every new IIe comes with a program called *Apple Presents Apple*, which explains the system to familiarize the first-time user with the keyboard operation.

At the core of Apple's ability to attract buyers, the strength most frequently noted, is the wealth of software available both from the manufacturer and from hundreds of independent programmers who hope to ride the coattails of success. There is an Apple-compatible program to do just about anything one could ever want to do on a home computer.

In a stroke of absolute brilliance, Apple designed the He so that many of the programs available for the earlier Apple would work without modification.

There is some ongoing debate about how successful this attempt has been, although a confidential Apple report suggests that 95 percent of the several hundred programs tested ran just as well on the IIe as they did on the II-Plus for which they were designed. But if you have specific programs you want to run, it's best to test them yourself before investing in a IIe.

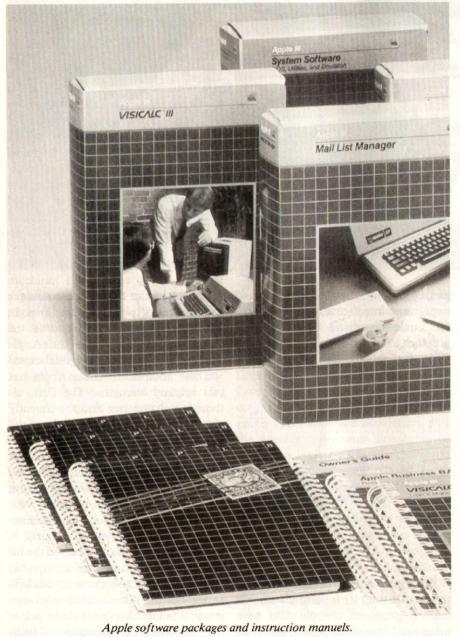
Apple has also released several programs designed specifically for the IIe, and promises more in the future. Apple Writer IIe and Quick File IIe were written to take advantage of some of the IIe's new features. The former is an upgraded word processing program of the Apple Writer II. It utilizes the IIe's improved keyboard, including the Tab and Delete keys. Quick File IIe, on the

other hand, is a powerful data base, designed to take advantage of the 128K RAM. Data bases are what we all thought computers were for way back when, since they store information and retrieve it as the user desires, whether it's sorted by subject, date, age or type. By and large, Quick File IIe is fine for most home uses.

This raises an important point for beginning computer owners to remember. Just because there are more programs written for Apple than for any other computer, doesn't mean the best programs are written for Apples. While there are numerous programs capable of running on the Apple IIe, there might be better ones that run on other machines. The way to buy a computer, experts agree, is to target the software you want to use, and then to find reliable hardware that will run that software. For example, if it is educational programs you're interested in, there are many good ones that run on the IIe. But there are also many good educational programs for the Texas Instruments TI 99/4A which can be purchased for under \$200.

However, all this aside, is the Apple IIe the right computer for your needs? There are hordes of personal computers on the market, many still offering more features at a better price. Few, however, offer the variety of software available for Apple Computers. If you're a writer, for example, the IIe is probably not for you because the program generally accepted as the best for word processing—WordStar—runs on a CP/M operating system several of which sell for under \$2,000 complete.

If you like the He you owe it to yourself to take a look at the Franklin Ace 1000, an Apple clone that offers IIe features at a bargain price. And there might just be two Apple alternatives to the IIe. The Apple III, the company's dark-horse business computer, is still in production. It gained a miserable reputation when it was hastily released and had to be recalled. The III lists for \$2,495, but can be found for around \$2,000 with the standard 128K RAM. Another Apple alternative—especially for those people not interested in word processing-might be the old Apple II-Plus. They are out of production now, but brand new ones are still around, being sold for less than \$1,000. Happy hunting!



FADED GLORY

(Continued from page 20)

release, SSSNAKE, Airlock, Bugs, Warplock, and Encounter at L-5, failed miserably at the cash register. As for the much-ballyhooed Journey/Escape game, sales fell far short of the initial anticipated three million units. When Data Age folded, the rights to Journey reverted back to the group. Journey manager Herbie Herbert says Bally is going ahead with the coin-op version.

"Data Age kind of threw out the baby with the bath water" said one competitior. Another, Jack Woodman, president of Telesys, remarked, "If only they had stopped to think about making the game good, then the marketing would have naturally followed."

Woodman conceded that Telesys is itself in somewhat rocky financial shape. "If I had the money I would go after a Frogger or a Journey or another strong license," he said wistfully. "We could do a good job with a title because we don't rush things." He pointed out that while many ill-fated firms hurried a dozen or so shaky cartridges at a time into the market, Telesys has cautiously released groups of three every six months or so. And, like the many others finding rough seas in a maturing industry, Telesys is turning to computer formats where demand still exceeds supply in most game categories. "We intend to hang in there and go where the market takes us," Woodman said.

Besides computer conversions, there is yet another alternative distribution system that observers say could either grant a new lease on life to defunct video game firms and their products, or pehaps become the final resting place.

William Von Meister, an originator of The Source and other electronic vengame session (i.e., six or eight plays of a Christmas. single game), GameLine will download, over telephone lines, video games and from cartridge suppliers, which will act other information, such as professional as licensors to the system. About 30 sports scores, news and stock reports, games go on-line now, with six to be directly to players owning an Atari VCS added monthly. Agreements in principle or an Atari-compatible system. The have been signed by Fox Video Games, credit cards. Calling his proposition Games, Commavid, Spectravideo,

The Game Line Master Module is compatible with the Atari 2600 VCS as well as the Coleco Vision units. In the near future it is expected to be compatible with Intellivision Master Component equipped with a System Changer or systems which have VCS adapters.



tion of the joystick," Von Meister explained, "we are trying to institute a unique, direct-to-home telephone-based service for the instant delivery of games and other videotex-oriented information."

At the heart of the system is CVC's powerful (up to 1800 baud) telephone modem Master Module which connects to an Atari VCS cartridge slot and a standard modular telephone outlet. With enough memory to download and temporarily store 8K of data (or, as the founder noted, any of today's modern 8K games), the modem's memory also holds customer identification numbers, the unit's serial number and auto dialing features for contacting the remote computer system (every call to the central computer, Von Meister says, will be a local charge via an IN-WATS line or CVC's private data network.) The modem also contains a battery for power back-up. When you purchase a module (\$59.95 suggested retail) you also pay a one-time \$15 registration fee that brings you a ring binder master file of game instruction sheets updated regularly by CVC. Units are initially available through CVC, but, later this year, Sears, K-Mart and other video tures, has formed Control Video Corgame outlets may get into the act. Von poration to implement Game-Line, a Meister expects to be in 30 markets with new pay-per-play service. For \$1 per about 250,000 Master Modules by

Nearly 100 titles have been secured games will be billed to users' major Games by Apollo, Data Age, U.S. "the most exciting thing since the crea- Telesys, and Imagic, which is providing startup capital to CVC as well. Still studying the agreement are Atari, Coleco, Parker Brothers and Mattel, while CVC has yet to contact CBS Video Games, Sega, The Great Game Company, Venture Vision and others. Activision counts as the only flat refusal to date, Von Meister related. "It's not something we want to be involved with right now," a spokesman for Activision said.

Von Meister conceded that so far, CVC has failed to line up the nation's leading game suppliers, instead signing up many vendors whose products have not done especially well in the marketplace. But far from viewing his system as "the host of last resort," the entrepreneur pointed out that Game Line offers manufacturers a second chance to put their games in the customer's hands.

"For licensors and players alike, GameLine offers the tremendous advantage of sneak previewing games at low cost-before cartridge production and shipping," he explained. "Many small suppliers and late comers to the market have been squeezed out by traditional distribution routes. Smaller manufacturers have some very good games, but not the resources available to market them effectively in competition with industry giants.

Does this mean that giving games like Squeeze Box, Gopher and SSSNAKE another chance to go head-to-head with formidable competitors such as Donkey Kong and Ms. Pac Man will suddenly make them popular with players? "On our system, every manufacturer is equal," Von Meister replied. "The quality of their games will speak for them."

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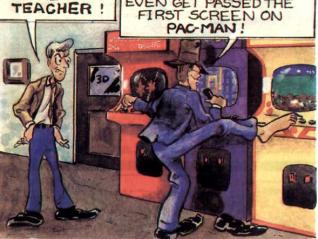
THOSE OF YOU KEEPIN COUNT!) LET'S PICK UP THE STORY AT HARVARD HIGH SCHOOL WHERE INDIANAPOLIS IS CURRENTLY ENGAGING IN SOME IMPORTANT MATTERS!

BONES ! WHAT ARE Townson

BUT YOU'RE

THE

I'M CUTTING I CANT RELATE TO THOSE KIDS! NONE OF EM CAN EVEN GET PASSED THE FIRST SCREEN ON



I WANT SOME TIME OFF! I WANNA PLAY THE ULTIMATE VIDEO GAME! I'M GONNA FIND THE *. LOST ARCADE!



BONES, DON'T DO IT! OTHERS HAVE TRIED TO FIND IT AND FAILED!

I'VE GOT SOMETHING THEY NEVER HAD,

BRAINS, GUTS, COURAGE ... AND A ROAD MAP PRINTED BY ATARI!



AND SO, THE JOURNEY BEGINS! NEXT STOP: THE BAR OF INDIANAPOLIS FORMER GIRL FRIEND, MARION ROTTENWOOD



INDIANAPOLIS! I WAS JUST THINKING HI MARION! YOU! ABOUT

REMEMBERING NO, REMEMBERING ALL THE ALL THE GOOD TIMES WE HAD TOGETHER, EH? QUARTERS YOU OWE ME!

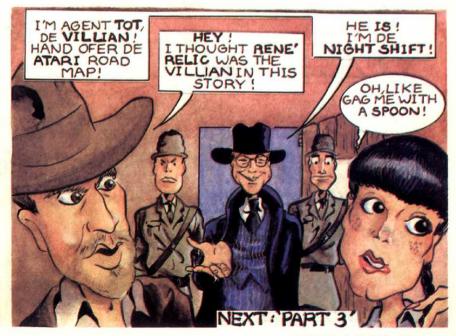
ANYONE CAUGHT NOT PAYING MARION THEIR TAB BAR WILL BE SHO ON THE PREMISES BANK You

I'M ON A QUEST FOR THE LOST ARCADE, AND I WANT YOU TO COME WITH ME!

BECAUSE I'M CUTE AND FUN TO BE WITH, RIGHT?

THAT, AND BECAUSE I NEED SOMEONE TO PAY FOR THE PLANE

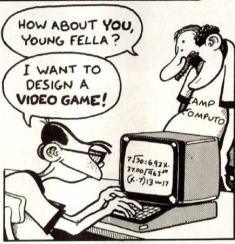






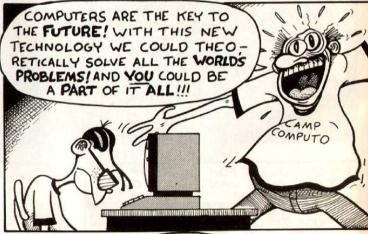


















WE WANT YOU! To put your joystick down long enough to fill out this

questionnaire. Tell us what you like and don't like in the arcades, at home and about this magazine. Then let her rip (or photocopy it) and send it to us pronto at this address: *VIDEO GAMES* Magazine, 350 Fifth Ave., Suite 6204, New York, New York 10118.

Name:				
Address:				
City: State: Zip:				
Sex: Male: Female: Age:				
Family Income: Under \$14,000 \$14-21,000 \$21-39,999 Over \$40,000				
Education: Elementary School High School College Master's PhD				
Occupation (if none, list parents'):				
Favorite Department in this issue:	8			
Favorite Feature article: Favorite Blip:				
What I'd like to see less of:				
What I'd like to read more about:				
How does this issue of VIDEO GAMES compare to previous ones?				
The same Even better Best so far Never mind				
Why?				
Other than VIDEO GAMES which magazines do you read?				
Hobbies:				
GAMER SECTION				
How much money do you spend on video games per week?				
Favorite new game: arcade home				
Biggest disappointment: arcade home				
Most challenging game: arcade home				
All-time favorite game: arcade home				
Favorite sequel game:	SP/FORE			
What home system do you own?	omit.			
How long have you owned it?				
How many hours per week do you play?				
If you would get another system, which would it be?	Die Dug			
How many video games do you buy each month?				
How many video games do you own?				
Do home and arcade game ads in VIDEO GAMES influence your purchases and selections?				
What influences you in buying a video game?	Variability			
Magazine or newspaper ads Radio Television Word of Mouth Other:				
Does reading an article in VIDEO GAMES influence your video game purchases?				
How did you get this issue? subscription newsstand				
You've just been hired by Big Name Games Company as senior games designer. Describe your first project:				
The state of the s	And the second			
	not become			
special first and mind and separate and the second state of the se	v and the form			
What do you think of Flip Side?				

STATS

Top Ten Home Games

This Week 6/25/83	Last Position 6/11/83	Weeks on Chart	Game
1	1	13	Centipede (Atari)
2	2	17	Ms. Pac-Man (Atari)
3	12	3	Enduro (Activision)
4	3	39	Pitfall (Activision)
5	5	41	Frogger (Parker Bros)
6	7	7	Keystone Kapers(Activ)
7	4	23	River Raid (Activision)
8	8	17	Phoenix (Atari)
9	6	15	Donkey Kong Jr(Coleco)
10	9	41	Donkey Kong (Coleco)

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Top 15 Arcade Games

	Percentage
1. Pole Position (Atari)	100
2. Time Pilot (Centuri)	65.8
3. Millipede(Atari)	65.2
4. Xevious (Atari)	61.2
5. Q*bert (Gottlieb)	59.3

Provisionally Rated (between a 10-25% response rate)

1. Star Trek (Sega)	80.1
2. Congo Bongo (Sega)	77.9
3. Food Fight (Atari)	72.5
4. Bubbles (Williams)	71.3
5. Sinistar (Williams)	69.7
6. Mappy (Bally)	76.8
7. Zoo Keeper (Taito)	63.5
8. Buck Rogers (Sega)	63.5
9. Bagman (Stern)	63.0
10. Mad Planets (Gottlieb)	58.2

These are the top earning arcade games according to a poll of operators. Those with asterisks indicate operator responses were between 25-50 percent. © 1983 by Play Meter Magazine

1 046 506 Pan Cold Stockton Calle

Sunnyvale, Calif.

HIGH SCORERS

(effecti	ve June 20, 1	983)
Arabian	102,850	Mike Ziaru, Salisbury, Md.
Baby Pac-Man	6,685,130	Richard Sattilaro
		Edison, N.J.
Bagman	2,000,000	Mark Robichek
		Sunnyvale, Calif.
Bubbles	318,330	Spencer Ouren
		Bozeman, Montana
Buck Rogers	731,030	Bruce Borsato
		Trail, B.C. Canada
Bump 'N' Jump	1,971,000	Mike Ternasky
NAME OF THE OWNER, WHEN		Milipitas, Calif.
Congo Bongo	312,050	Steve Harris
		No. Kansas City, Mo.
Defender	76,377,300	Bert Jennings, Durham, N.C.
Dig Dug	4,129,600	Ken Arthur
		Blacksburg, Wa.
Donkey Kong Jr.	957,300	Bill Mitchell
		Ottumwa, Iowa
Food Fight	4,474,200	Perry Rodgers
		San Luis Obispo, Calif.
Frenzy	4,789,909	Mike Mann
WHITE THE PARTY		Oak Park Heights, Minnesota
Frontline	727,500	John Dunlea
		Wilmington, N.C.
Gorf	2,220,000	Jason Smith
	73-9 -/5	Midland, Tx.
Gravitar	4,722,200	Raymond Muller
		Boulder, Colo.
Joust (New Chip)	70,013,950	Connel McCrohan, Dallas, Tx.
Journey	1,645,125	The particular control of the contro
Lost Tomb	1,129,860	
(single play)		Ottumwa, Iowa
Марру	328,540	
	100 NAME 100 NAME	W

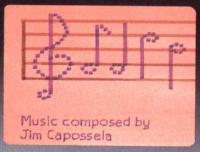
Millipede	1,946,596	Ben Gold, Stockton, Calif.
Monster Bash	2,035,540	Ivan Luengaf
		No. Miami Beach, Fla.
Munch Mobile	448,400	Bob Lynch, Kinosha, Wis.
Moon Patrol	1,214,600	Mark Robichek
(7 cars)		Sunnyvale, Calif.
Mr. Do	2,535,850	John McKeever
		Montreal, Quebec, Canada
Ms. Pac-Man	419,950	Tom Asaki
	VEGET TO	Ottumwa, Iowa
Nibbler	838,322,160	Tom Asaki, Ottumwa, Iowa
Pole Position	56,710 E.T.	
	215.71	
Popeye	894,260	Eric Ginner
		Sunnyvale, Calif.
Q*bert	24,000,068	
Robotron	325,325,325	Robert Bonney
		Kirkland, Wash.
Satan's Hollow	8.692.035	Michael Ward
		Madison, Wisc.
Sinistar	738,305	Mark Bersabe
		Milipidas, Calif.
Speak Easy	21,396,050	Steve Stanger
(Pinball)		Caledonia, Mich.
Star Trek	2,066,050	Tim Collum
Harris Harris		Macogdoches, Tx.
Super Pac-Man	588,430	John Azzis
		Santa Maria, Calif.
Super Zaxxon	201,700	Gary Hatt, Upland, Calif.
Time Pilot	4,134,400	
	TO MANAGEMENT	Dublin, Ga.
Wacko	6,608,100	Steve Harris
	.,,	No. Kansas City, Mo.
Xevious	9,999,990	Tim Williams
	(Cannot be	
	broken)	Moscow, Idaho
Zoo Keeper	3,800,100	Eric Ginner

Our thanks to Walter Day Jr., of Twin Galaxies International Scoreboard (226 East Main St., Ottumwa, Iowa 52501). Readers who think they might have a high score should send a self-addressed, stamped envelope to Walter Day who will forward the necessary information and forms. Cities given are the locations where the high scores were achieved

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