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for the Coin Operated Entertainment Industry

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Volume 8, Number 8

April 15, 1982

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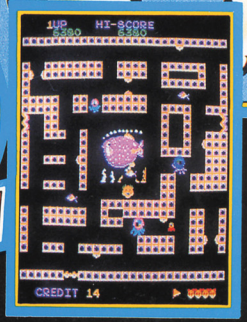

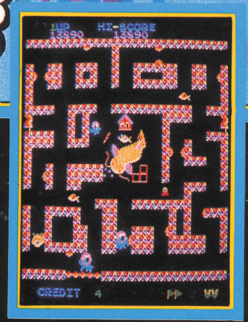

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Volume 8, Number 8/April 15, 1982

PLAY METER

The Twice Monthly Publication for the Coin Operated Entertainment Industry

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47 **Amusement Operators Expo Pre-Show Guide**
Our way of saying "Welcome to Chicago" is contained herein. Beginning with the Exhibitors List (page 47), we present a handy guide to what's on show. What's happening on the exhibit floor? See page 84, the preview wrapup. What to do once the AOE closes down for the night? See "Having Fun and Culture in the Windy City," which begins on page 96. Have fun in Chicagoland, and good business!

110 **Computerizing the Coin Count**
Considering a computer? Then here's a ready-made program for one of the most basic tasks you will put on-line. Innovative Management Consultants have provided, and we publish here, a computer-ready check between the cashbox count and the game's meter. Read on, and plug-in.

124 **A Player's View of Appealing Games**
Contributing editor Bill Brohaugh takes us through a visit to some of the best locations—and the worst. Bill's comments are worth noting: Your games aren't just competing with Joe Blow's; they're competing with themselves. Have you looked closely at your equipment lately?

139 **Nintendo in America: Climbing in the Video Market**
This company has become big financial news in the Land of the Rising Sun, building on its success in the home amusement game field. Now based in Seattle for U.S. distribution, Nintendo has its sights on a firm niche in the domestic coin-op market: A look at its plans by contributing writer Lee Shearer.

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COVER CREDIT: Chicago's opulent Hyatt Regency is the setting of The Show of the Eighties, AOE '82. One of the star videos on display is Williams' Robotron 2084, *shown on our cover.* Photo by Williams Electronics.

UP FRONT

Imagine what this amusement industry would be like without video games. Think of where we would all be right now, had Nolan Bushnell (the founder of coin-op games) not made the first successful connection between a coin slot and a video game. Just think of it. Not one single video game anywhere on the face of the earth.

In such a world sans video games, the pinball would probably reign supreme (along with the pool table and the phonograph following close behind). But what about the size of the industry? How big would it be now, had it not been for video games?

One thing would be for certain. This industry would not be anywhere near as big as it is now. There would be fewer manufacturers, games, distributors, operators, locations, and players. Have no doubt about it, this would be a small industry had it not been for the emergence of the video game.

Just as the Industrial Revolution brought growth and prosperity to the whole Western world, so too have video games affected the coin-op industry. Our industry has come of age and has enjoyed a period of rapid growth and success. The question is, can this industry effectively deal with the problems that always seem to arise during such changing times?

Some say that the industry has gotten too big too fast and they point to a "saturated marketplace." Video games did indeed open a lot of new doors to the industry. But through those doors went not only a lot of new equipment but also a lot of new operators. A major concern today is with the calibre of these new operators. How will they fare, facing the times ahead? How many will survive?

Survival at the operator level should be everyone's concern. There was a time in the industry when the basic rule for survival was "Every man for himself." Today's operator can't go it alone. He needs all the help he can get—and then some. But if he is not financially sound and does not possess the fundamentals of good business sense, all the help in the world will not save him.

Manufacturers and distributors have come to realize that they must become more sensitive to the problems faced by today's operators. Problems of operators are, in fact, industry problems and, as such, should be dealt with by the industry as a whole, not by the operator fighting it out on his own. Close interaction and communication between all levels of the industry will go a long way in assuring steady growth and continued prosperity. That's what success is all about.

As this is our AOE Show Issue, I would like to take this opportunity to welcome each and every one of you who're in attendance. Your presence here in Chicago for the AOE is a clear indication that you care about your business, you have confidence in its growth potential, and you care about the industry.

We are pleased to see you here with us and we look forward to meeting with as many of you as possible. Please don't hesitate to seek us out on the show floor, the meeting rooms, or during off-hours.

We have made every effort to bring together the cream of the crop from all sectors of the coin industry. The seminar leaders' goal is to promote the general welfare of the industry at all levels. And the only way to insure the continued growth and prosperity of this industry is by *all of us* working together towards that one common goal: the betterment of the industry.

The stage has been set. The opportunity awaits us. Let's each and every one of us do everything possible to reach a better understanding between all levels of the business. A bright future awaits, and it's ours for the taking. Seize the moment!

Ralph C. Lally II
Editor and Publisher

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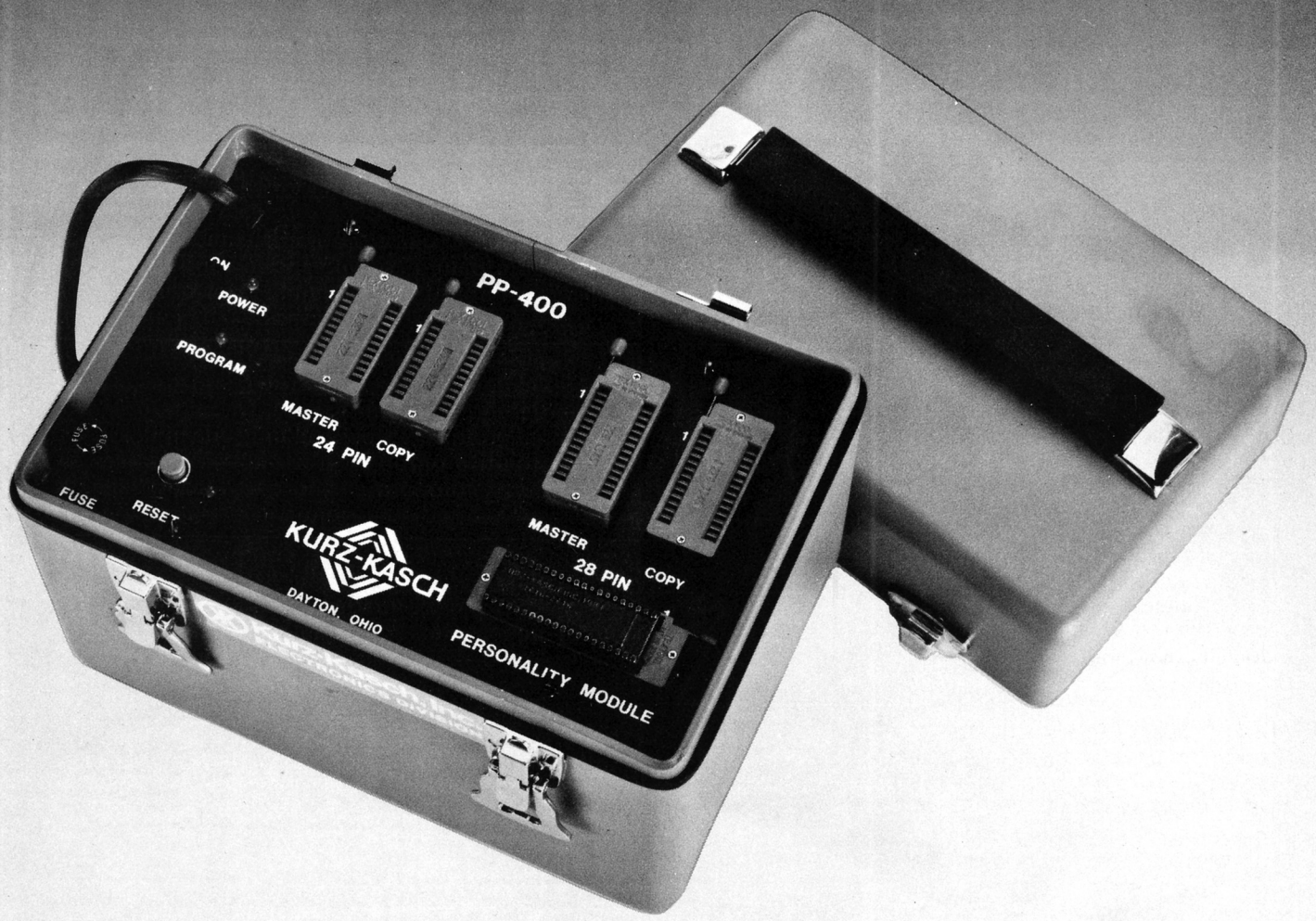

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Of finks and men

Being fairly new in this business (since July 1981), I have been visiting as many arcades/street locations as I could, to try and understand the rest of the business. During these visits I have noticed several machines which do not display the required State license stamp. Further, I have bumped into several machines which were obviously knock-offs.

These operators are hurting the business, in my opinion. Is there a hot-line that we could write or call to become dirty little rat-finks and turn in the offenders? Or should I continue to ignore these people? They don't actually hurt me physically—do they?

E.M.
Amarillo, Texas

[*Ed. Reply: The writer, who wishes to remain anonymous, states a problem that goes beyond "becoming a rat-fink." It is of legitimate concern to operators everywhere when there are operators anywhere skirting the law. To prevent the "one bad apple" syndrome is the concern of E.M. and all others who want to maintain a hard-won respectable image for amusement coin-ops.* Play Meter *has called editorially for the coin industry to police itself before Big Brother does the necessary policing for it. And, E.M. and the other straight-arrow operators who may not be hurt physically—are apt to be hurt* fiscally. *In any given area, one bad operator can cause all kinds of problems for the remaining straight operators.*

For example, if the non-taxpaid machines are noticed by one amusement operator, they will also be noticed by other business people—such as merchandise vendors, ice cream shop owners, and everyone else who complies, albeit grudgingly, with the burden of taxation. To whom will those other merchants complain? To their elected officials. And into the minds of the elected officials will rise the notion that all *amusement machines are not carrying their weight in taxes.*

Of the copy game "knock-off" problem, we could say that the corner-cutting operator is only hurting himself in making the copy games he owns, liable for seizure under a court order that may be obtained by the legitimate producer of the original game. The question is a wide one, which has been explored in depth in this magazine in recent issues, but the operation of the "copies" does at least create yet another doubt as to who is operating legitimately.

Finally: writer E.M. in a follow-up conversation with us noted his concern with the "blue suede," fly-by-night sales of dubious coin-op games. To him as to other readers we point out that each state and many U.S. counties have consumer protection agencies and law departments which are open to aid the would-be operator who has been caught in this type of rip-off. The list of agencies, addresses and personnel is too lengthy to publish, but any operator who feels he has been caught in a "blue-sky" games fraud may contact Play Meter *for referral to the appropriate action office.*]

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AN OPERATOR STATES HIS CASE:

Little cities play 'Big Brother'

As told to President Reagan

by Gene Beley

To the Editor
San Gabriel Valley VIEW Section,
Los Angeles Times
Los Angeles, California

Dear Editor:

I have been in the amusement game business for 15 years. After being alarmed by general economics threatening our business the past several years, I am now more shocked by politicians trying to put us out of business. Indeed, 1984 with Big Brother on the *video* wall monitor is not far away!

The *Los Angeles Times*' September 27, 1981 article "S. Pasadena Zaps Electronic Games" is an example of how government is continuing to kill free enterprise and erode individual freedoms in our nation. And newspaper reporters always lean on governmental sources for information, seldom digging in and getting the business people's in-depth side of the story.

The amusement game industry in the West, especially, is still comprised mostly of small business Mom and Pop type companies who buy the games—frequently on time payments from distributors, and split 50/50 with the locations leasing the games. Whereas my mother-in-law once joked, "Don't get too big, the Mafia will get you," I have never encountered the Mafia: only city halls. Five years ago, when there was an influx of new people into the business after pinballs were legalized, a similar political climate erupted, and I helped at least three cities, including Pasadena, write fair laws to all parties concerned. At the time, I was previously paying more for my business license in one community, El Segundo, than Standard Oil Refinery, which the City Council agreed was not right.

State Supreme Court rulings at that time made pinball games legal. Today we are fortunate that electronic games have evolved to a much higher intellectual challenging level for young people and adults. These games are providing more pre-education for the computer world they will encounter than the schools are able to offer. Whereas each school today should have a bank of computers in each classroom for the kids to learn basic computer language, budgets prevent it. Thus the kids, especially, turn to game rooms and computer shops.

'My personal vision to establish a Leisure Center could be severely retarded by current (local) politicians enacting over-reactionary laws that retard legitimate computer/game businesses.'

I will concede my company has taken the responsibility not to place any of our games in liquor stores. I regret this trend, but still think parents should take more responsibility to police their children, rather than blaming machines.

Ever since the California Supreme Court made pinballs legal, forcing city councils like San Marino and others to update their bluenose laws into the 20th Century, these uptight council people have been waiting for revenge. When San Gabriel and other cities pulled the Moratorium on game licenses and, like the Gestapo, closed existing businesses, other city fathers must have grinned and said, "If they can do it, we can too." One thing I have learned is there is no originality among city governments. Any time they do so-called research, it means "Call all the other city halls and see how they handle it." Thus this type of incestuous governing for the people will eventually kill the people.

When all else fails, the cities have found they can set a high fee on individual game licenses to make it uneconomical for the game owner to operate—which is just as effective as making them illegal. Thus we have come to know "legislation by economics."

Currently, in Arcadia, I pay $30 per game to the city for license fees, which is exorbitant. Why? Most other businesses pay only $30 for their entire business for a business permit. I have waged this economic battle for years, never dreaming in 1981 we would have to begin fighting a war for our very survival. Although I am paying more than $600 a year for games in just two locations in Arcadia, for my one business, fighting for the freedom to continue business without governmental interference now takes precedence. Since we do operate in many different communities in the San Gabriel Valley, though, the economics involve paying more than $2,000 a year for various business permits and *county* Personal Property Taxes on our machines.

I always shudder whan a newspaper or politician picks out an outstanding location like a pizza parlor and tells how they "bring in about $2,000 a month." Chances are, a game service company provides the restaurants their games on a lease plan, with free service to the location, in exchange for 50% of the gross. Thus if that good location does get $2,000 a month, the game owner has only $2,000 to pay for about $20,000 in games, gasoline expenses, truck overhead, office, labor, and his own skyrocketing cost

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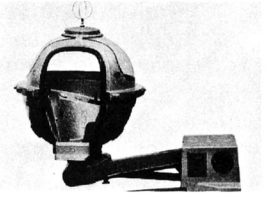

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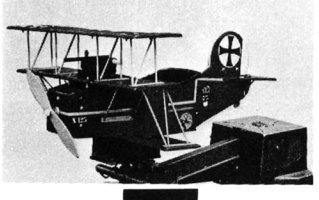

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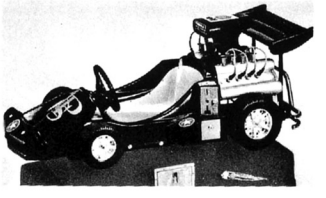

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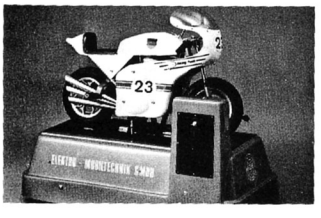

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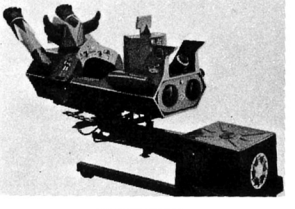

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of living. The game owner must also pray that the game will last in popularity for one year and also render enough to pay for the next generation of "hot" games.

Prices of our games have rocketed from $800 a few short years ago to an average of $2,500—$3,000 today. With the price and overhead factors rapidly increasing, I estimate we must take in three times the cost of the game to earn our first quarter! Also, due to the exorbitant interest rates today, we are forced to buy for cash, resulting in being able to operate fewer games *without* city councils trying to limit us to one or three at each location. Few of the bureaucrats in city halls have ever had to meet a payroll or pay rent. Most City Council elected officials are relatively wealthy and represent the Establishment more than the small businesses in the community.

I have learned even the Chamber of Commerces do not represent small business interests; the Arcadia Chamber of Commerce once panicked when I recommended a gross receipts tax for our games—because the prominent Chamber members who now pay less than $100 a year would have been severely hurt.

Last, but not least, businesses we serve by providing amusement games on a 50/50 commission basis desperately need the games revenue to keep consumer prices down, counteract rising rents, utilities, labor costs, and general overhead. Ron Rosen, owner, Rosie's Ice Cream Parlor in Arcadia—a model of small business and old fashioned service—will bluntly tell customers the games we provide have already saved him from bankruptcy. Without the freedom to operate as many games as he deems wise and prudent to his own operation, there may not be a Rosie's Ice Cream Parlor.

I might add, thanks to Rosen's outstanding management, we have never had a police problem with as many as 12 games in that location. An equal number of adults as young people continue to enjoy the combination of old-fashioned service, delicious ice cream, banana splits, fat hot dogs, and thick shakes, along with the excitement of futuristic electronic games.

The cycle of "We've got trouble right here in River City" has been going on since pool tables were introduced. At one time in Arcadia, when games were once banned, it was necessary to put a coin in a jukebox to activate a pool table! My hat's off to the Pasadena city attorney's office employee who summarized, "Little cities concern themselves with little issues."

The games business is in the process of maturing and escalating to sophisticated, new computerized entertainment and business services. My personal vision to establish a Business and Leisure Entertainment Center, with many computerized coin-op or token machines dispensing everything from games to library services, could be severely retarded by current politicians enacting over-reactionary laws. These laws could even retard other legitimate businesses, such as computer stores, from offering computer, coin-opped terminals as a general service. Perhaps all we'll see by 1984 *is* the big video screen with Big Brother beamed from City Hall.

Sincerely yours,

Gene Beley, president
Android Amusement Corp.
Monrovia, California

cc: President Ronald Reagan,
White House
and others

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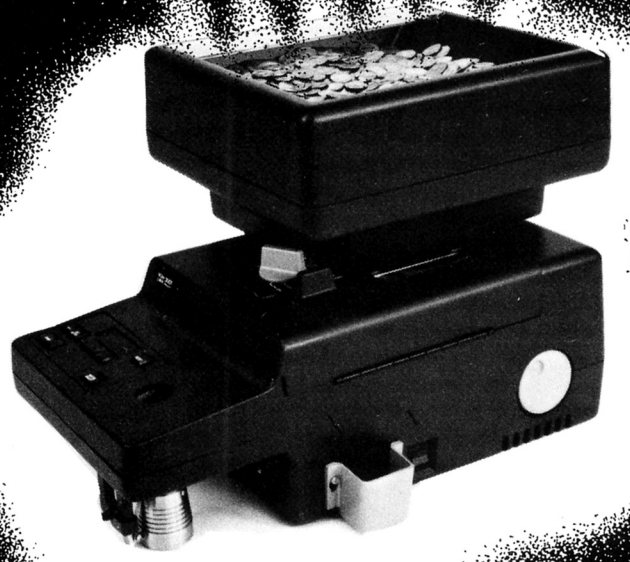

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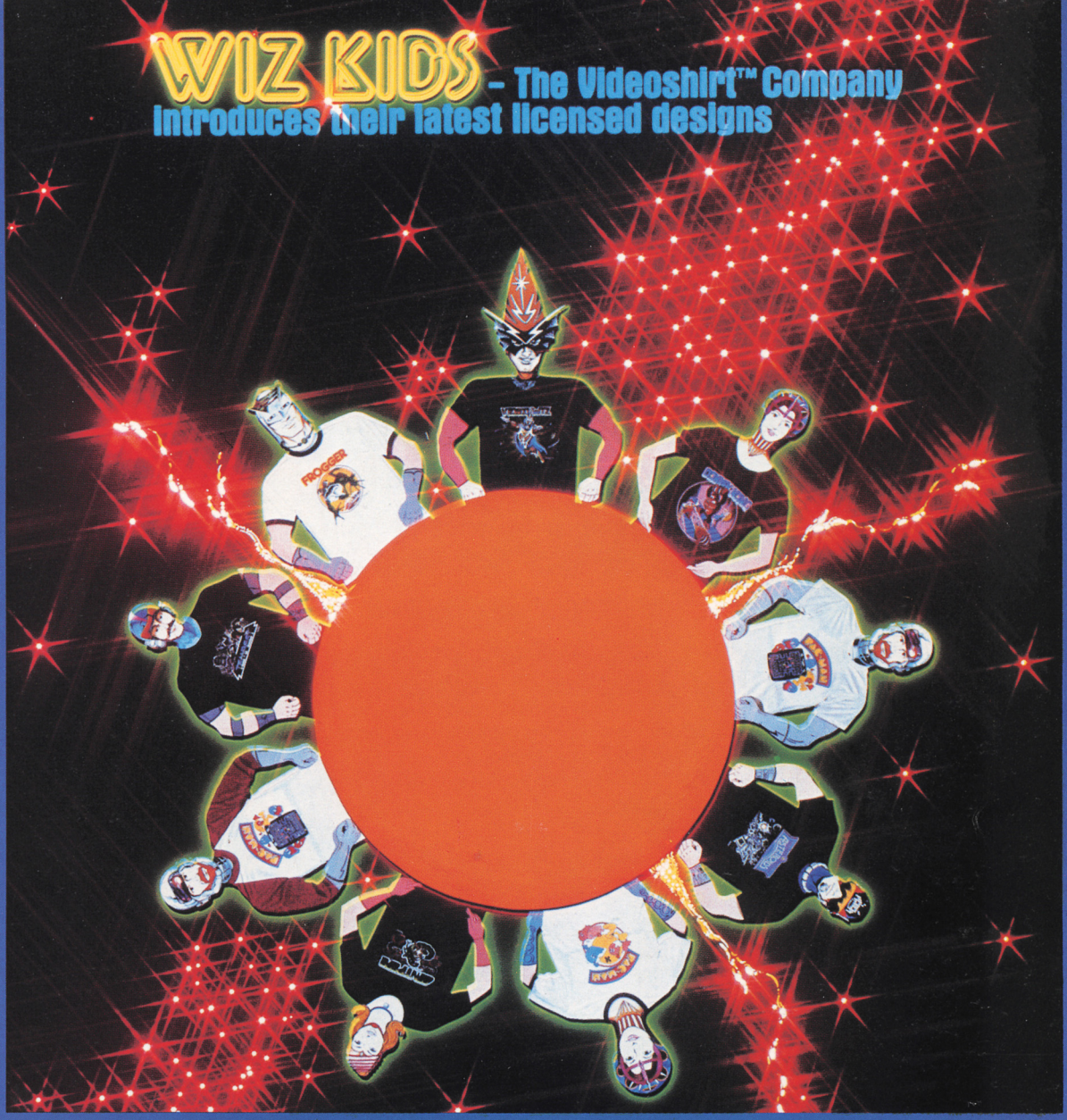

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Play Meter Equipment Poll

The following are rankings of the top videos and top pinballs making above average weekly gross collections nationwide. The dollar amounts appearing are the average weekly grosses as reported to Play Meter *magazine through its regular national operator survey. Amounts are heavily weighted by averages reported from arcade locations; street locations are generally lower. Games with less than adequate responses (less than fifty percent) but with above average collections are so noted. Games not appearing on the poll either (1) did not generate over a ten percent response rate to provide an adequate representative sampling or (2) did not register weekly gross collections above the national average.*

TOP VIDEOS

Twenty of 47 videos (43%) with a response rate over ten percent have above average earnings.

	Apr. 15	Apr. 1	Mar. 15
National video average	$161	$160	$151
1. *Donkey Kong*/Nintendo	$250	$255	$250
2. *Ms. Pac-Man*/Midway	$243	$234	$256
3. *Stargate*/Williams	$232	$236	$202
★ 4. *Turbo*/Gremlin	$225	$231	$278
5. *Pac-Man*/Midway	$206	$203	$209
6. *Qix*/Taito	$205	$199	$207
7. *Galaga*/Midway	$205	$221	$239
8. *Centipede*/Atari	$202	$203	$204
9. *Tempest*/Atari	$199	$214	$217
10. *Frogger*/Gremlin	$196	$201	$216
11. *Defender*/Williams	$179	$193	$198
★ 12. *Kick-Man*/Midway	$172	$184	$194
★ 13. *Mousetrap*/Exidy	$164	$179	$198

TOP PINBALLS

Ten of 21 pinballs (48%) with a response rate over ten percent have above average earnings.

	Apr. 15	Apr. 1	Mar. 15
National pinball average	$101	$ 98	$ 96
1. *Haunted House*/Gottlieb	$196	$178	$209
★ 2. *Vector*/Bally	$183	$141	—
3. *Black Hole*/Gottlieb	$148	$147	$165
4. *Centaur*/Bally	$130	$150	$150
★ 5. *Elektra*/Bally	$121	$117	$120
6. *Eight-Ball Deluxe*/Bally	$120	$125	$136
7. *Mars*/Gottlieb	$108	—	—

★ *Conditionally Rated— Weekly average based on less than 50% response rate*

Provisionally Rated Pinballs and Videos

(Above average earning games, with a response rate between 10—25%)

VIDEOS

Provisional Ratings	Apr. 15	Apr. 1	Mar. 15
Lady Bug/Universal	$265	$200	—
Bosconian/Midway	$258	—	—
Lil' Hustler/Dynamo	$232	—	—
Amidar/Stern	$230	—	—
Thief/Pacific Novelty	$228	—	—
Grand Champion/Taito	$228	—	—
005/Gremlin	$168	—	—

PINBALLS

Provisional Ratings	Apr. 15	Apr. 1	Mar. 15
Hyperball/Williams	$225	$—	—
Viper/Stern	$113	$—	—
Barracora/Williams	$108	$—	—

Operator/readers who would like to join the ever-growing numbers of readers participating currently in the survey, write: *Play Meter, Equipment Poll, P.O. Box 24170, New Orleans 70184.*

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NEWS BEAT

More pirates made to walk the plank

Major manufacturers continue to win court battles to put video pirates out of competition.

March court rulings came on like lions roaring unanimous judicial disapproval of companies cited for infringing on the copyrights of games licensed by manufacturers Atari and Nintendo.

Following the trend of other recent rulings, the U.S. Court of Appeals for the Seventh Circuit in Chicago gave Atari a unanimous nod over North American Philips, manufacturer of the Odyssey home video game.

Odyssey's home video game *K.C. Munchkin* was found by the court to be a copy of *Pac-Man*, for which Atari owns home video rights.

The court issued a preliminary injunction against North American stating that the company "not only adopted the same basic characters but also portrayed them in a manner which made *K.C. Munchkin* appear substantially similar to *Pac-Man*.

The court continued: "Video games, unlike an artist's painting or even other audio-visual works, appeal to an audience that is fairly undiscriminting insofar as their concern about more subtle differences in artistic expression...A person who is entranced by the play of the game 'would be disposed to overlook' many of the minor differences in detail and 'regard their aesthetic appeal as the same.'"

In making its decision, the U.S. Court of Appeals overturned a lower court ruling.

Nintendo of America won its preliminary injunctions against four companies involved with a game entitled *Crazy Kong*.

In separate actions filed in U.S. District Courts in Los Angeles and Orlando, Florida, Nintendo established that the *Crazy Kong* games did infringe upon their rights connected with *Donkey Kong*.

In Los Angeles, Chris Anderson and Direct Connections were restrained as was Casey Takayanagi's Pacific Arcades. In Florida, the firms named were ASC/Florida and American Sun/Tronics.

All the infringing companies were ordered to stop assembling or manufacturing the games and to recall as many of the offending pieces as possible from operators.

The companies will also be ordered to pay damages and attorney fees to Nintendo.

All four companies contended they were licensed to sell *Crazy Kong* games by Falcon Company of Japan who in turn had supposedly been licensed by Nintendo.

Poker machines under fire in Ohio

The *Dayton Daily News* reported on February 20 that the operation of electronic poker games is under attack in Ohio.

In the Miami Valley, law enforcement officials said they were reviewing the legality of the games after Warren County Sheriff Robert Dalton banned the games.

"*The Poker Machine* has been found to be a gambling device and, as such, it has been prohibited," the sheriff said.

Dalton said March 17 would be the deadline for removing the games from business that have installed them for public use. After that date, Dalton intends to confiscate the games. He contends that location operators keeping the games in operation could face arrest.

Other Ohio law enforcement officials are considering the problem with such devices in their counties.

In Montgomery County, Sheriff Deputy Inspector Konrad Munson said he is conferring with the prosecutor's office about several machines in the county. Montgomery County includes the city of Dayton wherein private clubs are using the gambling machines.

Dalton says his action is backed by an Ohio appeals court ruling which says the poker game is dependent on chance and therefore is a gambling device and violates Ohio law.

ITC backs Midway with bond requirements

The International Trade Commission has imposed a 54 percent bond on imports of video games for nineteen defendants who have been found to sell games that could infringe on copyrights of Midway Manufacturing's *Pac-Man*.

The bond has been imposed to halt further importing of the infringing pieces while the Commission reflects on a final decision in the Midway matter.

Earlier (See *Play Meter*, March 15, p. 28) Midway won a temporary restraining order against the defendants.

A Trade Commission spokeman told *Play Meter* that a final decision in the matter must be issued by July, but he indicated that the Commission was moving quickly on this matter and that a decision would probably be issued as early as May.

The spokesman said that in the case of the defendants importing more games or boards, it would be up to Midway to discover their entry and to inform the Commission of such. In that case, he offered, had the required bond not been posted and the Commission found that the games did "closely resemble" *Pac-Man*, a "severe civil penalty," a $10,000 fine, would be imposed upon the offending company.

Williams holds first annual meeting

Shipments of Williams' newest game, *Hyperball*, are now under way, Michael R. Stroll, president of Williams Electronics, Inc., announced at the first annual meeting since the initial public offering of the company's securities.

Stroll said: "The enthusiastic reception given this game by distributors, operators, and players has generated significant optimism on the part of management about the prospects for success of this game."

Stockholders re-elected the company's seven incumbent directors and approved an increase in the total number of authorized shares of common stock from 10 million to 30 million and the creation of a new class of preferred stock consisting of 5 million shares issuable in series. The additional authorized shares may be used for possible future acquisitions or for other purposes not presently determinable.

Stroll reported that an agreement had been concluded to license the right to manufacture and sell a cartridge version of *Defender*, one of the company's games, to Atari, Inc. for use in its home video machines. Stroll also announced that the company had reached an agreement in principle with a toy manufacturer for the manufacture and sale, under license, of hand-held and tabletop versions of three of the company's games.

Charles D. Arnold

Arnold named president

Charles D. Arnold has been named president of Bally Northeast Distributing, according to Chuck Farmer, president of Bally's domestic distributors. Farmer said: "We are happy to have a man of Chuck's ability to head up our Northeast Distributing Organization."

Bally Northeast Distributing which carries Bally and Midway products as well as Atari, Williams, Stern, and Rockola recently moved into a new 55,000 square foot facility in Norwood, Massachusetts.

Arnold has spent the last five years as general manager of Rowe's Northeast Distributing Organization.

AOE features distrib preview

Amusement Operators Expo 1982 will offer an interesting innovation for distributors. While operators are attending morning seminar sessions, distributors will be offered an opportunity to visit exhibits and deal with exhibitors unencumbered by the masses.

On the Saturday and Sunday mornings of the show, exhibits will be open to distributors only from 9:00 to 10:30.

Calling the special distributor previews times to "join us for Bloody Marys and big opportunities," the show sponsors believe this innovation will enable distributors to accomplish more successful business dealings with their suppliers and are hoping that the innovation will make the show more productive for that segment of the industry.

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Play Meter editors go electronic

When Quorum Industries settled into the Marriot Hotel on famous Canal Street in New Orleans, editors at *Play Meter* magazine took some of their own advice.

"We have been telling operators to call their local media when these 'biz op' groups come to town and we followed that procedure here when Quorum set up shop," said Editorial Director David Pierson.

WWL-TV, the local CBS affiliated just happened to be in the midst of a five part series investigating the video craze and the crew working the story was already planning on looking into Quorum's show. What they did not know, however, that the *modus operandi* of Quorum was suspiciously like other "blue sky" sales companies which have been selling low-quality games at inflated prices to unsuspecting investors.

Upon investigation, *Play Meter* discovered that Quorum was in the midst of legal action in its home state of Texas. There, the State Attorney's office has filed suit against the company charging them with fraud in taking money from investors and delivering either machines other than the ones contracted for (used machines in many cases) or no machines at all.

Individuals named in the suit include the two salesmen who were conducting the New Orleans show.

Sources at the State Amusement Commission in Texas and at a large "biz op" firm in that state said that Quorum used the name of a large development firm in Dallas so they could utilize the association between the two unrelated firms to gain credibility. The Quorum brochure features pictures of the Quorum headquarters in Dallas, an impressive office building that houses the development firm, not the video game company.

Upon discovery that Quorum was a "blue sky" outfit, WWL-TV brought their camera crew to *Play Meter* offices and filmed interviews with Pierson and Associate Editor Mike Shaw. The *Play Meter* editors explained the "blue sky" sales tactics in hopes that the locals who had contracted with the company for something in the neighborhood of a million dollars (according to Quorum salesman David Madden) might be able to stop payment on checks or at least keep from losing more money with the company than they had already surrendered.

Shaker Heights decides on ordinance

The council of the Cleveland suburb of Shaker Heights, Ohio voted unanimously in February to regulate the operation of electronic games with laws that are only slightly less restrictive than ordinances proposed last year and tabled by council as being too strict.

A fee of $50 per machine will be charged for the first two games and $100 for each additional machine. A proposed restriction on hours of operation was dropped, but another requirement was added prohibiting children fifteen and under from playing the games between 5 a.m. and 3 p.m. on school days.

City curfews bar children under fifteen from being on the streets between 11 p.m. and 5 a.m. unless accompanied by a parent or guardian, so this legislation essentially allows game playing only between 3 p.m. and 11 p.m. for those under fifteen.

One councilman, claiming children will still be spending too much time on the games, tried unsuccessfully to keep youngsters off the machines after 7 p.m. "I'm concerned that under the circumstances, the legislation is not tough enough," he said.

Earlier this year, the city had been considering an ordinance which would have imposed a $100 per game licensing fee and required a special use permit from the city's planning commission for each location with more than one game. Also, all machines would have had to be turned off by 10 p.m. Sunday through Thursday nights and midnight on Fridays and Saturdays.

Last month, council softened its earlier stand, allowing up to two games to be operated without requiring a special use permit from the city. However, the recently enacted ordinance does require the location owner to submit a floor plan to the city demonstrating that the games will be visible to the store manager at all times, before the special use permit will be granted.

According to council members, the penalty for violations of the city's game code is suspension or revocation of the location's permit.

One councilman who said he strongly supports the need for control of video games said he favored deleting the age restrictions on game playing, while leaving in licensing and floor plan regulations. "This council is not in the business of regulating store hours," he said.

However, another councilman argued that "we must face the realities of today's life. Parents, especially one parent families, can't always manage their kids." A third council member added that the city's main concern with this legislation should be to protect the business areas "in a way that the maximum number of citizens can use them."

A week before the ordinance was enacted last month, the opening of a Shaker Heights bakery created controversy when city police alleged it was actually operating as a game room as a primary use.

The bakery, called Greek and European Pastry To Go, opened on the morning of Monday, February 15. Police closed it that afternoon. It reopened the next day.

The bakery was described by city officials as having fifteen video games and six cookies. According to an employee of the bakery, this was because the games arrived before most of the pastry.

By the following week, the shop had installed a food cooler and several permanent counters, as well as a variety of baked goods. Six of the videos had been temporarily removed by the operator, according to the employee, not because of the gaming ordinance but to be replaced with newer games.

Shaker Heights has an ordinance regulating "game parlors" on the books, according to Mayor Walter C. Kelley, who added that "no one has ever submitted an application for such a special use permit."

One of the councilmen who supported tight restrictions against electronic games said he feared more problems like the bakery would arise if restrictions weren't passed. "It may be difficult to draw the line between a primary and a secondary location," he said.

In December, a public hearing was held to learn community opinion about the issue. More than one hundred residents, game operators and store owners were present. with the group about evenly divided on the issue.

—by Bill Kurtz

Ohio association authors model ordinances

The Ohio Music and Amusement Association compressed a great deal of information supplied by operators into a series of model ordinances intended for use by operators who are having difficulty with local mayors and city councils.

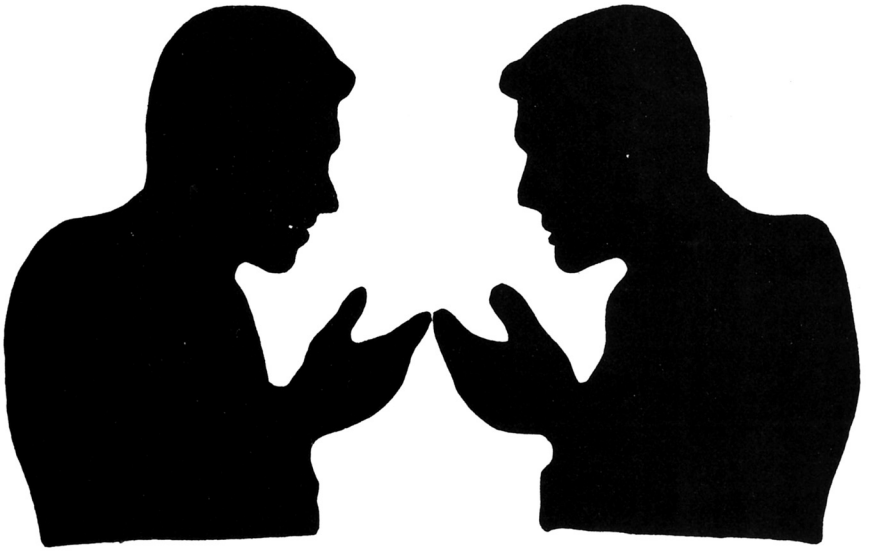
When mayors or councils are proposing overly restrictive legislation, the OMAA suggests these model municipal ordinances can be submitted for consideration.

Model Ordinance A provides for a licensing and inspection procedure and establishes an appeals procedure so all interested parties can be heard.

Model Ordinance B offers a definition of an arcade and explains the difference between arcades and bars.

Model Ordinance C spells out the procedure whereby an arcade can be established in a community and suggests operating requirements, and revocation and hearing procedures.

Although the Ohio association has compiled the ordinances to be used within its own state borders, the information and statement of the ordinances could be studied for use and appropriately amended by other states.



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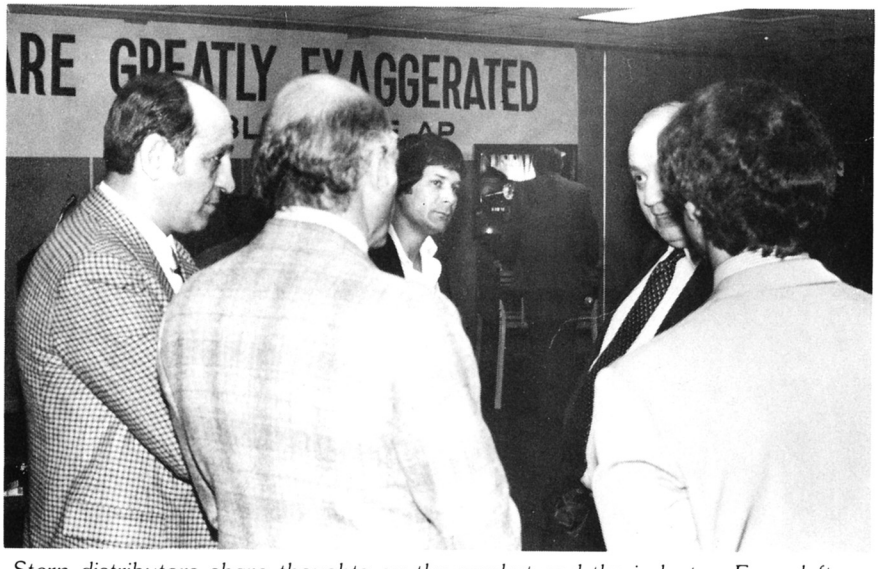
Two southern distributors, Al Toranto of Birmingham Vending, and Jon Brady of Brady Distributing check out the molded playfield on Stern's new pingame, Orbitor 1.

Tom Campbell, Stern's marketing director, tells Chat McMurdie, Advance Automatic Sales, of the immediate availability of Stern/Seeburg's revolutionary video jukebox.



Stern distributors share thoughts on the market and the industry. From left, Rubin Franco, Jerry Gordon, Terry Moss, Norm Goldstein, and Ira Bettelman.

A gutty

"As you can see, we have good product in all three of our lines—videos, pinballs, and jukeboxes," Gary Stern, chairman of Stern Electronics told a group of about thirty distributors at a special product preview at the Hyatt Regency O'Hare Hotel in Chicago March 1.

With an overbalanced industry trend toward more and more video, the Stern presentation of product in the pinball and jukebox modes (as well as video) was as much Stern's statement of the continued strength and viability of these other major equipment lines, as it was a showing of Stern's current product offerings.

It was also something of a show of Stern's anticipated marketplace renewal. After starting off 1981 very well (on the strength of a particularly solid video game called *Berzerk),* Stern's product line received less than an enthusiastic reception in the marketplace. But now the company is geared up for a second half rally, a posture which no doubt flies in the face of some industry naysayers who expect a continued downturn in the industry's economy.

As is evidenced by Stern's gutty offerings in pinball and video—as well as its video—Stern expects a market resurgence.

With features that are truly innovative in the pinball and jukebox markets and two new videos that show good promise, Stern obviously is not giving up the market for dead.

In video, Stern Electronics showed off its newly licensed game, *Amidar.* Fresh from a good reception at both the ATE and IMA shows where it attracted quite a lot of attention for the creator, Konami, from competing factories, the game makes its debut in the United States as a Stern game, under the Konami license.

Amidar's stable-mate is an in-house refinement of last year's sensation, *Berzerk.* Featuring walls that rebound laser shots and a more responsive joystick, the game *Frenzy* appears to be another solid offering.

In pinball, in addition to the dual-level *Iron Maiden,* Stern was showing off a revolutionary new pingame called *Orbitor 1.* The game features spinning pop bumpers,

preview of pins, videos, and jukes.

which spin the ball off instead of popping the ball off, and a molded playfield. Yes, that's right, a molded playfield. The playfield features hills and valleys which the player must master to hit the drop targets, spinners, and other targets.

"If you find these games a success," Stern told the distributors, "then we'll have a lot more revolutionary ideas behind them."

Revolutionary also describes the Stern/Seeburg jukebox which features a video display. The phonograph was introduced at the AMOA Show in October, but it hasn't been ready for delivery until now. "The Seeburg phonograph is currently on the production line," Stern said. "We're building it now."

And in the background, stretching the entire width of the room, was a defiant slogan which indicated that Stern/Seeburg, for one, has not given up the market for dead.

—by David Pierson

Stern Electronics, Inc., Chicago, recently hosted a reception at Hyatt Regency O'Hare for more than 50 Stern/Seeburg distributors from the U.S. and Canada. Pictured above, company President Gary Stern (left) shows off Stern's new Orbitor I *pinball game to Al Simon of Al Simon Distributing Co., New York City.*

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THE PROFESSOR IS IN...Carl Arnett, the Santa Cruz Beach Boardwalk's arcade expert emphasizes a point during the four week class entitled "Arcade Games: The History & Introduction to Playing."

Earn a Ph.D. in pinball

They're banning arcades in Texas. San Francisco is enforcing curfews of 10 p.m. for public arcades. But in Santa Cruz, California, they're offering a class in the basics of playing the new video and pinball games.

Hoping to help more adults and kids become accomplished at shooting down enemy spaceships and guiding little frogs across busy freeways, the Santa Cruz Beach Boardwalk is offering a class, "Arcade Games: The History & Introduction to Playing," at the Boardwalk's main arcade.

Offered through the Parks & Recreation Department, the four week class will teach beginners how to play various video games including *Donkey Kong, Pac-Man* and *Defender*. The six dollar resident fee includes free game play.

Taught by the Boardwalk's arcade expert Carl Arnett, the four week class will also include a history of arcades and machines, as well as a tour of the three arcades and their repair shops.

The Boardwalk's collection of arcade games is one of the largest in northern California, sporting more than 300 vintage and modern machines.

Located 35 miles south of San Jose, the Santa Cruz amusement park is the Pacific coast's last remaining boardwalk, with 23 rides, along with games, shops, and restaurants, all on a mile-long beach.

UBI expands marketing effort

United Billiards, Inc. of Union, New Jersey has announced the appointment of Peter J. Petropoulos, Jr. as vice-president of marketing. In conjunction with the move, U.B.I. President Stephen Pinsly said he intends to expand the market penetration of U.B.I. by increasing the number of distributors carrying the company's products.

"We also intend" he said, "to add new products by investing heavily into research and development. We have noted an increasing market in products in which U.B.I. has expertise and we plan to be in that market," he added.

Gene Daddis is heading up the research and development division of U.B.I.

This year, the company has introduced a new line of pool tables priced below the most popular line.

The company has also created a division that manufactures video cabinets for the video industry. "We feel we can make the best cabinet in the business, and we plan a campaign to tell everyone about it," the president stated.

The company has redesigned and is now in production on *Bimbo*, the electromechanical game that is finding new life in today's marketplace.

UBI's Don Taylor puts it this way: "*Bimbo* is a hot product for a variety of reasons. The principal one is because it's virtually the only major product that speaks to, or should I say sings to, the untapped pre-video age three-to-nine market."

Pinsly

Petropoulos

"Our story is simple," Pinsly stated, "we have new aggressive professional management. We have defined our markets. We have the product knowledge and the in-house expertise of over 25 years in the business. We plan to expand our distribution and become a factor in this marketplace.

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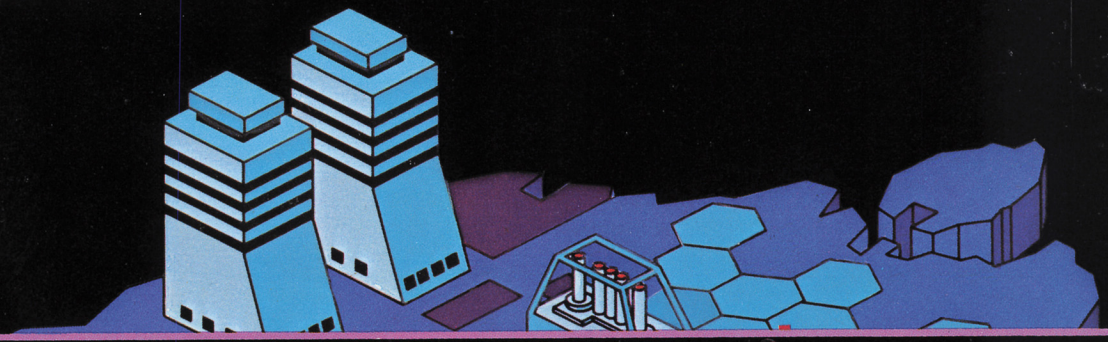

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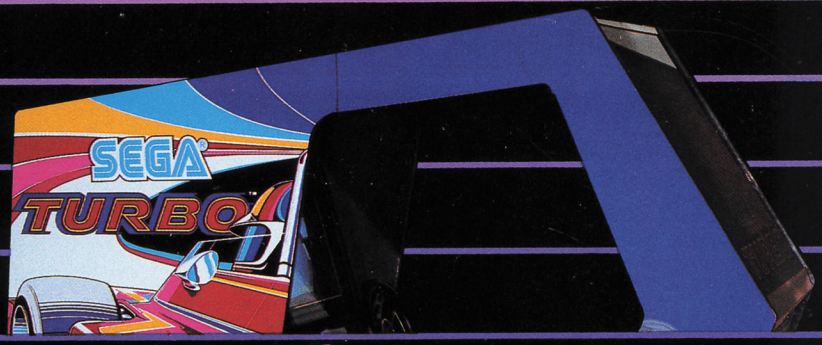

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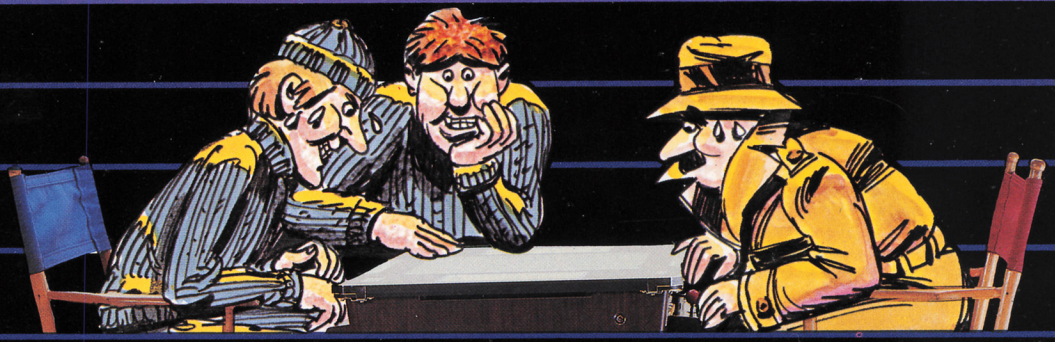

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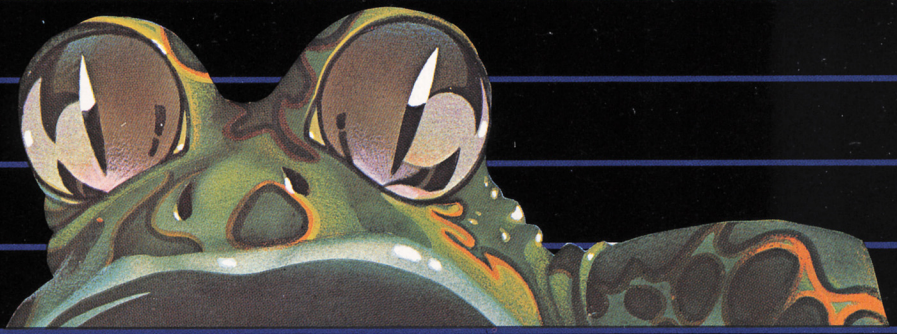

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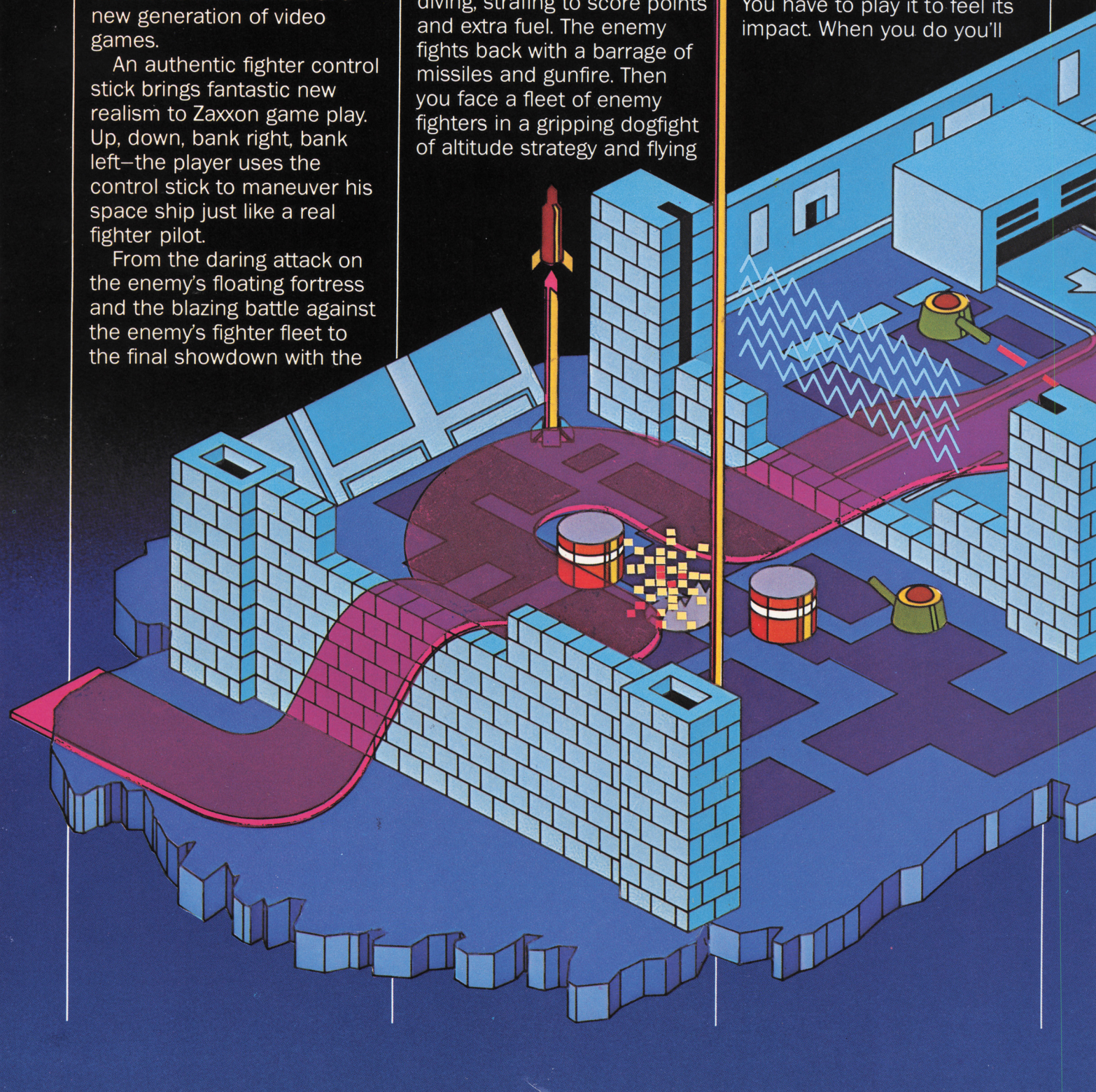
From the daring attack on the enemy's floating fortress and the blazing battle against the enemy's fighter fleet to the final showdown with the deadly armored robot, Zaxxon challenges the skill and imagination of every player at every level of skill.

Imagine yourself the pilot, the pilot's control stick in your grasp. You attack the enemy fortress climbing, diving, strafing to score points and extra fuel. The enemy fights back with a barrage of missiles and gunfire. Then you face a fleet of enemy fighters in a gripping dogfight of altitude strategy and flying skill. Win this battle and you've earned the ultimate challenge: a blazing confrontation with the powerful robot, armed with lethal homing missiles.

Zaxxon is the one game that you must see to believe. You have to play it to feel its impact. When you do you'll



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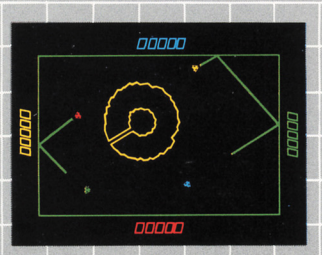
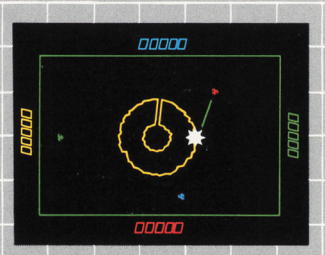
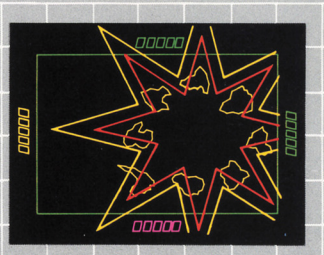


One to four players battle individually or in teams to defeat the threatening forces of Eliminator.



Devastating energy bolts can be fired to "push" opposing players into the Eliminator Base.



Precisely placed shot down the tunnel the Eliminator Base in an awesome display of color and sound.

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Eliminator™ is doing-in the video game competition again. Now this popular, proven earner challenges up to four players at the same time. More players for more collections. More advanced ColorBeam™ excitement to keep them playing longer, to keep them coming back.

Whether it's one player against the Base is fatal to the touch. Constantly emerging Eliminators with blazing computer, partners vs. partners, or every man for himself, the competition is contagious. The energized Eliminator fireballs are deadly. Opposing players add still more challenge and strategy. It's a space-age extravaganza of attack and avoid, of color and sound that sets the record for repeat play.

For more information on the latest in video games excitement contact your authorized SEGA/Gremlin distributor today.

Dimensions:
40" high, 33¼" wide,
40⅜" deep.
Weight: 350 lbs.

©1982 Gremlin Industries, Inc.

SEGA® / Gremlin®

FOUR-WAY FUN

ELIMINATOR™

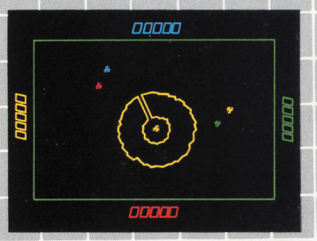
More Players.
Multiple playing modes give the players options, keep the competition stiff, and the earnings coming. 1) one player against the computer, 2) two players against each other and the Eliminator adversary or as a team against Eliminator, 3) three players teaming up or going individually and 4) four players playing as partners or each on his own—but always against the Eliminator.

Regardless of the mode selected with two or more players, the last remaining player gets to take-on the wily Eliminator computer in a grand finale fight to the finish.

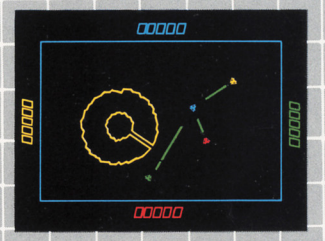
More Action.
The Eliminator Base floats at random, vulnerable only through a narrow tunnel to its core. Players' ships explode on contact with it or if they collide with the Eliminator craft or are hit by deadly fireballs fired by this tenacious pursuer. It's border-to-border excitement as players fire powerful energy bolts to "push" other players and Eliminator ships into the fatal Base, *and* at the same time try to gain position to blast the Base through its tunnel. Action from every direction, points and more points to be scored.

More Strategy.
Energy bolt power can be built up with a conservative firing plan. Rapid firing speeds up the action, but strategic energy management is the key to success. Should you avoid or attack? Indirect shots or fire head-on? It is a thrilling game of wit and skill that gets progressively more difficult with each round.

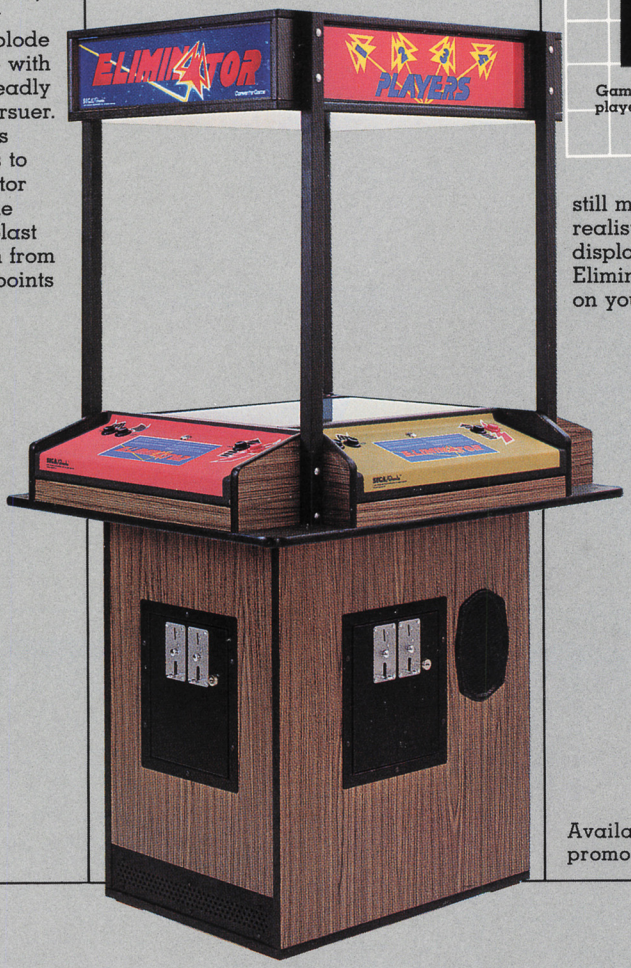
More Repeat Plays.
The players and team combinations are many, and so will be the repeat plays. As single and partner players score and win, they'll stimulate challenge in still more players. Innovative fast action, realistic sounds, and vivid ColorBeam™ display all combine to make 4-player Eliminator the one video game to have on your side.



Four-way color coding identifies individual or team ships for all players.



Game border color changes to color of leading player's ship . . . cues lagging players to attack leading ship.



Available with high impact promotional canopy.

SEGA® / Gremlin®

The Walter Mitty player-type gets behind the wheel of Turbo in the most fantasy-filled race of his life.

SEGA®

Performance Plus Profit.

TURBO™

SEGA/Gremlin's newest driving game, TURBO, offers high speed performance for players and high earning profit for you.

Turbo gives players a brand new perspective of racing. No more back seat driving! Turbo's true to life scenographic perspective puts players right in the driver's seat, whirling through city streets and tunnels, over highways and bridges.

SEGA®

TURBO™

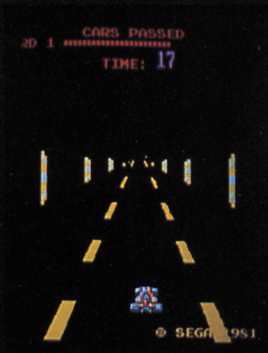
Racers off to a good start.

The aerodynamic Turbo cockpit is fully equipped with an L.E.D. instrument panel that maps acceleration, indicates the top five scores to beat, shows score of the last game played, and measures record breaking speeds. Standard features include a pro rally steering wheel, responsive 2-speed gear stick shift, illuminated oil and temperature gauges and a full power accelerator, all in the realistic cockpit of a turbo charged race car.

Turbo screeching towards the country.

Turbo is also available in the compact upright, with score indicator, gauges, steering wheel, stick shift and accelerator built for maximum space efficiency.

Both models offer behind-the-wheel excitement in a grueling cross country race. Road handling skills are put to the test as the Turbo course winds through busy city streets, narrow suspension bridges, blind tunnels and rambling country roads.



Tunnel vision raceway.

Sudden changes in road conditions such as snow, wreckless competitors and emergency-routed ambulances further challenge the player's driving abilities.

No pit stops are permitted in this fast-paced race to the finish. Points are accumulated as Turbo successfully routes through each phase of the course, lapping other cars. Drivers can monitor their progress at a glance with read outs for time remaining on the clock (adjustable) and number of cars passed at the top of the screen.

Dangerous ocean-front palisade racing.

Collision during the first lap sends drivers back to the starting line. In succeeding laps, however, a collision explodes the Turbo car on impact.

In a rolling rural straightaway, road dips obscure cars ahead creating a hazardous sequence that taxes the driver's skill. Exercise caution and check speed while climbing steep hills.

An extended play *bonus* is awarded when drivers pass sufficient cars with time to spare. Lapping cars during this phase tacks on bonus points.

Turbo lapping racers at sunset.

Turbo can be your high income pacesetter. Visit your local SEGA/Gremlin distributor today and test drive a TURBO.

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Two of a kind.

SEGA® / Gremlin®

005's secret agent action and skill challenges the finesse of every high-skilled player.

005™

YOUR SECRET FOR SALES

Agent 005 brings new cash collections to you. His mission is to deliver secret attache cases to an awaiting helicopter. Through wily street chases and the shadows of warehouse darkness to slippery skating rink maneuvers and the blazing aerial getaway flight . . . Agent 005 steals the scene and delivers customers to you.

Fun-filled music attracts them. Four thrilling escape scenes challenge them. And the continuing fun keeps them playing and playing. The unique audio and video excitement matches every player's skill level.

And 005 is a RasterScan Convert-a-Game, which can later be converted to a brand new top earning game at a substantial savings.

Convert-a-Game

Put Agent 005 on your side today . . . and win the chase for higher profits. For more information on the latest in video game action, call your nearest Sega/Gremlin distributor.

SEGA® / Gremlin®

005™

4 TIMES THE CHALLENGE

The chase is on. Agent 005 makes away with an attache case. A hovering helicopter awaits his arrival, but first . . . enemy guards pound the streets in pursuit. 005 must duck into a new scene.

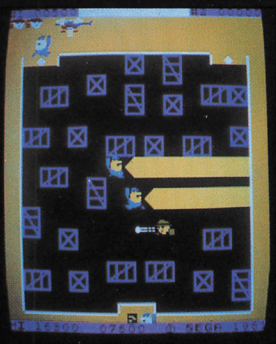
Inside a warehouse. Avoid being caught in the guard's flashlight beams . . . once 005 is detected, the chase quickens to super fast. Blast the guards with stun-gas and score valuable points.

Slip into a skate rink. And slip you will. There is no stopping on ice and the same goes for the thrills. Sliding and firing . . . firing and sliding. 005 can call his helicopter to escape.

The final flight fight. High flying aerial excitement. 005 has reached his helicopter in all other scenes and now finds his high scoring, high soaring getaway copter in a new test: balloon and parachute bombs close in from all sides. 005 blasts away to score points and to escape. Then the final challenge is thrown at his skill — a blazing battle with the enemy copter. Win now and you win big.

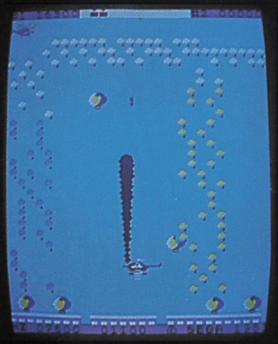
Its free-wheeling fun with fun-filled music and sound. Its stealth and pursuit is like no other video game. Everybody's after Agent 005 . . . You should be, too. Call your nearest Sega/Gremlin distributor today and make sure 005 is on your side.

Street Scene



Warehouse Scene

Skate Rink Scene



Aerial Fight Scene

SEGA® / Gremlin®

Dimensions:
Upright: 71 1/4″ high, 29 7/8″ deep, 25 15/16″ wide, 330 lbs.
Cocktail: 25 1/4″ high, 35 1/2″ deep, 27 1/2″ wide, 170 lbs.

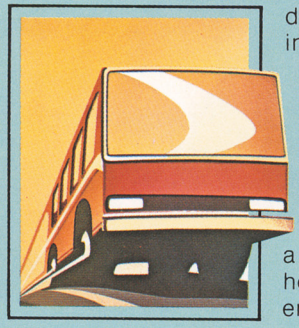
© 1982 Gremlin Industries, Inc.

The cartoon game player is captivated by the light-hearted fun and entertainment of Frogger.

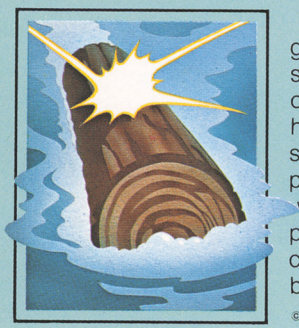
LEAP FOR YOUR LIFE!

Life for frogs has never been more dangerous than with Sega/Gremlin's newest video game, Frogger™. The lily pads and ponds of yesterday are only a dream as players attempt to save Frogger from wreckless hot rods and hungry crocodiles.

Frogger is crazy. It's



danger and fun rolled into one. Frogger leaps from speeding cars and trucks on a busy highway to slippery logs and diving turtles in a rushing river. His life is constantly in jeopardy, safe only in a protected swamp home along the treacherous river.



A one or two player game, Frogger has a special place among other games, with happy, toe-tapping music and intriguing game play that's fun for the whole family. Your profit skyrockets because Frogger scores big with every crowd.

©1981 Gremlin Industries, Inc.

FROGGER™

SEGA®/Gremlin®

FROGGER KEEPS THINGS HOPPING.

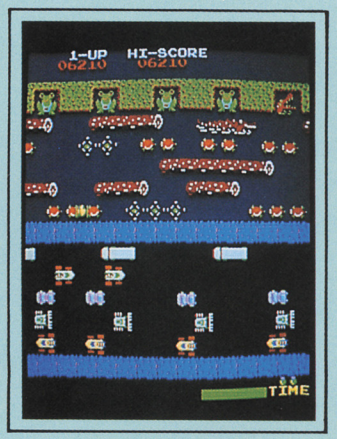
The object of the game is to guide Frogger home in 60 beats of the clock or less, without getting hit by cars, drowned or eaten alive by slimy creatures that slither through the river.

Frogger must dart between cars and trucks on a five lane highway, ride on diving turtles and hop on rolling logs to get home. In advanced rounds, Frogger encounters deadly snakes, otters and crocodiles.

Ten points are scored for each safe hop. Landing home earns 50 points, and if Frogger makes it home with time to spare, 10 points are added for each beat saved.

Frogger earns bonus points by rescuing a lady frog from a log and giving her a lift home. Two hundred bonus points are scored when Frogger catches and eats flying insects and also if he lands at home where a fly is buzzing. Filling every home with happy frogs awards 1,000 bonus points for a job well done!

Take a leap for the good life with Frogger, available in the upright and cocktail models. For more information, contact your local Sega/Gremlin distributor.



FROGGER™

SEGA®/Gremlin®

Sega/Gremlin Moves Into New Facilities, Expands Production.

SEGA/Gremlin's commitment to providing you with a full line of creative products is underscored by a new 125,000 square foot corporate headquarters and manufacturing facility in Rancho Bernardo, California.

Devoted to video game manufacturing, SEGA/Gremlin's new facility features state-of-the-art assembly line manufacturing systems and sophisticated quality controls.

GREMLIN INDUSTRIES, INC., 16250 Technology Drive, San Diego, CA 92127, (714) 485-0910, TWX 910-355-1621.
SEGA ENTERPRISES, Ltd., #2-12 Haneda, 1-Chome, Ohtaku, Tokyo, Japan, TLX 781-22357.
SEGA EUROPE, LTD., 15 Old Bond Street, Mayfair, London, England, W1X 3DB, TLX 847777.
SEGA ENTERPRISES, INC., One Century Plaza, 2029 Century Park East, Suite 2920, Los Angeles, CA 90067, TLX 688433.

SEGA® / Gremlin®

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NEWS BEAT

Rock-Ola garners exec.

Frank P. Baxpehler was recently appointed executive vice-president of sales and marketing by Rock-Ola Manufacturing Corporation of Chicago. Frank arrives from many years of management, sales, marketing, and international trade experience in the musical instrument manufacturing industry.

His participation in Chicago's business community is extensive. Being a member of Chicago's International Business Council for eighteen years, he is serving his second term with the District Export Council, a U.S. Commerce Department appointment. Since 1981, he has acted as chairman of the International Committee of the Illinois State Chamber of Commerce promoting direct foreign investment in Illinois and directing an export awareness program.

Baxpehler plans to broaden Rock-Ola's market position in both the video game and phonograph fields.

Baxpehler

Trinwith

Pizza Time names direct

Inda K. Trinwith has recently been promoted to director of games administration for Pizza Time Theatre, Inc. She formerly was the games department buyer and planner for the Sunnyvale, California based company.

In her new position, Trinwith is responsible for purchasing game room equipment, game room layouts, game movement strategy, collection analysis, and game sales.

The family-oriented restaurants feature the latest in video games and performances by the Pizza Time Players, a group of computer-controlled characters led by Chuck E. Cheese, the emcee and company mascot. Currently the company owns or franchises nearly 100 units in 21 states, Canada and Australia. Trinwith has been with the 5-year-old company for two years.

THE CALENDAR

March 26-28
Amusement Operators Expo '82, Hyatt Regency, Chicago

March 31-April 2
Coin-Op '82, Irish Amusement Trades exhibition, Racecourse Centre, Leopardstown

April 2-4
NAMA Western Convention-Exhibit of Vending and Foodservice Management, Brooks Hall, San Francisco

April 2, 3
AMOA/Notre Dame Seminar, Center for Continuing Education, Notre Dame, Indiana

April 14-23
Milan Fair, Internat'l Business and Meeting Center, Milan, Italy

April 16-18
FAVA/music, games, and vending show, Curtis Hixon Convention Center, Tampa, Florida

April 30, May 1
Wisconsin Music Merchants Association exposition and annual membership meeting, Milwaukee

May 7-8
Ohio Music & Amusement Operators, annual convention and show, Columbus

May 12-13
New Jersey Amusement Operators Association, Playboy Hotel & Casino, Atlantic City

June 3-5
Amusement and Music Operators of Texas, Americana Hotel, Ft. Worth

June 20-25
Bowling Proprietors Association of America, 50th annual convention and trade show, Town and Country Hotel, San Diego, California

July 16-17
Montana Coin Machine Operators Assocition convention, Outlaw Inn, Kalispell, Montana

September 10-12
Joint North and South Carolina associations meeting, Radisson Plaza Hotel, Charlotte

September 24-25
West Virginia Music & Vending Association convention, Ramada Inn, South Charleston, West Virginia

October 7-10
NAMA convention and exhibit, The Rivergate, New Orleans

October 8-9
Amusement & Music Operators of Virginia, Richmond

October 14-17
ENADA (exhibition of coin-op amusement machines), Congress Building (EUR), Rome, Italy

November 18-20
AMOA Exposition, Hyatt Regency Downtown, Chicago

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Manufacturing Coin Mechs, Domestic And Foreign, for the Coin Operated Amusement Machine Industry

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- Midget Channels
- Complete Door Systems
- Coin Boxes
- Anti-Flip Kits
- Anti-String Kits
- String Cutters

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Ray Nicholson

Ron Rollins
Frank Schubert

Washington games tax defeated

An attempt to impose a 20 percent tax on the gross revenues from amusement games located in the state of Washington was defeated March 5 when operators presented a strong case against the revenue measure.

Representatives from Spokane (Jane Lenard and Lois Stratton) sponsoring the measure offered the tax in light of the success of the industry over recent years. According to operator Bob Hasson of Melody Amusement, Lenard claimed that the state directed the legislature to pursue finances wherever they could find them without regard to what business it might hurt.

At the hearing on the bill, Lenard opened discussion of the matter by offering to open the measure to amendment.

"An amendment might have reduced the amount of taxation and made the bill more palatable," explained Hasson. "But there were no amendments offered."

At the final hearing on House Bill 1202, Washington operators showed up with a licensing agent from the city of Seattle.

"The city licenses games at about $100 per game which means about $350,000 a year," said Hasson. "The operators convinced the agent that if the tax was passed, approximately a third of the games now located there would have to be removed and placed outside the state. That would mean about a $150,000 loss to the city of Seattle."

According to Hasson, the agent was convinced of the validity of the operators' argument and his address to the state legislature in turn convinced them that increasing the state's revenues was sure to diminish that of the cities.

Sega/Gremlin moves into new facilities

Sega/Gremlin has moved into its new 125,000 square foot office and manufacturing building in San Diego's North County. The new facility, in the Rancho Bernardo Technology Park, will house the company's executive offices and serve as the main manufacturing plant for Sega/Gremlin's popular line of coin-operated video games.

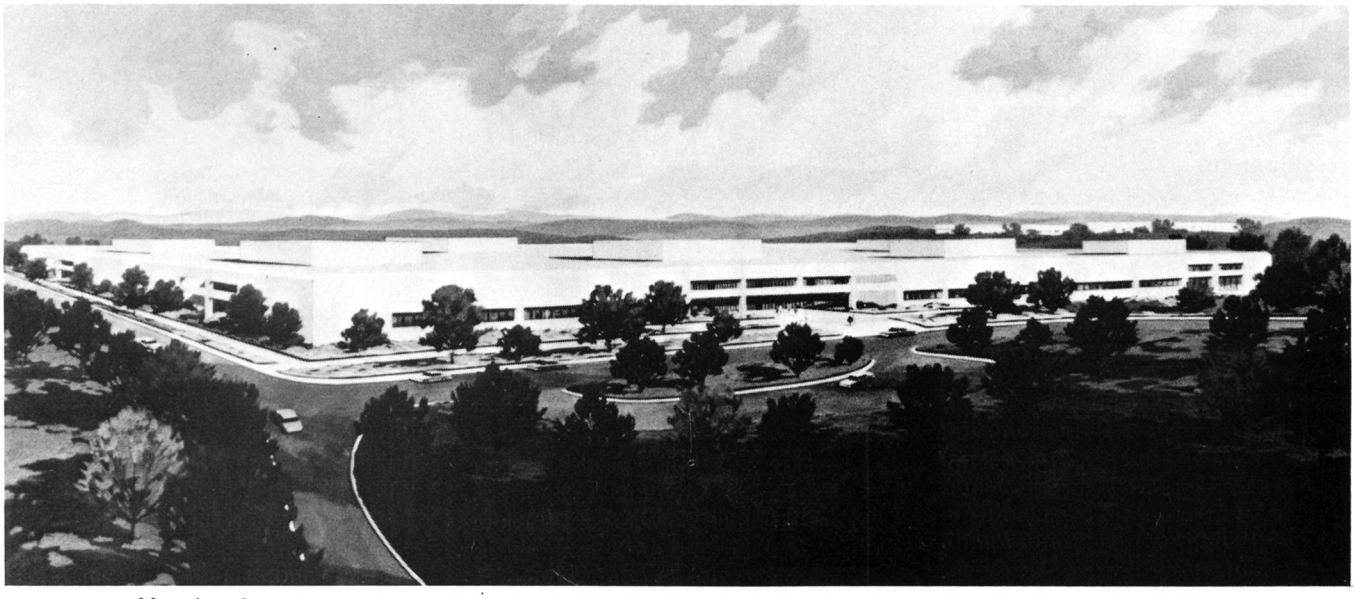
"This new facility provides us with expanded capability to meet the worldwide demands of the video amusement game industry," states David Rosen, chairman and chief executive officer of Sega Enterprises, Inc.

"Initially, we anticipate employing some 500 people at this new location, while maintaining engineering and overflow production capability at our previous location. Senior management of the corporation made the decision to become capital intensive, permitting Sega/Gremlin to gear up production very quickly and thus provide shortened lead times."

The move consolidates many operations into a single location and provides improved manufacturing systems with the most advanced, mechanized assembly lines in the industry.

Automatic integrated circuit inserters, board testers, and a wide variety of new quality assurance equipment have been included in the facility to assure fast, reliable production to keep pace with market demand.

Engineering, Shipping/Warehousing, and the Wood Products Division, which manufacturers cabinets for the wide range of video games produced by the company, will remain at their current San Diego locations.



New headquarters and manufacturing facility for Gremlin Industries, Inc. in Rancho Bernardo, California.

Kienan to CleCoin

Tom Kienan has joined Cleveland Coin as special projects manager for the Ohio and Kentucky branches of the company.

In making the announcement, President Ron Gold also announced staffing for the new Lexington plant. "The new plant will be staffed with Cleveland Coin veterans from the Cleveland and Columbus branches, such as Jack Whitehead, who will head our customer service department. Jack was formerly head of the service department in Cleveland.

"Tim Paukner will be our parts manager, while Peter Guy will direct the warranty department and Victoria Guy will manage the office. Charles Elkins, formerly our Columbus branch manager, will assume the duties of industrial vending manager.

Kienan comes to Cleveland Coin after eight years with the Ohio Attorney General's office. He is a graduate in marketing from Ohio University.

In other company news, Cleveland Coin was awarded the Moyer-Diebel Distributor of the Year honor in Santo Domingo for the third straight year.

Kienan

Jarocki

Jarocki joins Midway

"James L. Jarocki is joining our marketing team," announced David Marofske, president of Midway Manufacturing Company, "to coordinate varied activities of advertising and promotion."

A graduate of the University of Illinois with a degree in advertising, Jim recently completed service in the Air Force as weapon systems officer with RF4-C Plantom jets. He has been stationed in Germany for the last 4½ years and achieved the rank of captain.

"Among his responsibilities," said Stan Jarocki, vice president of marketing, "he will be working with advertising programs, distributors, trade shows, publicity, and trademark licensing promotions.

They'll Laugh

They'll Scream

They'll Return

Again & Again & Again!!

It brings them good times and it brings you big profits. It's Whac-A-Mole, one of America's hottest new arcade games.

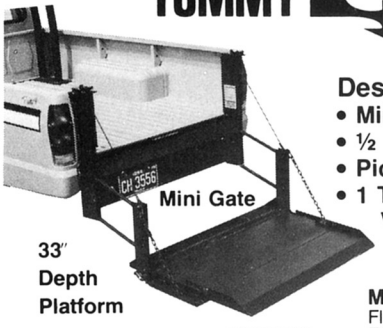
Players go wild trying to reach high scores by whacking those pesky moles as they pop in and out of their holes.

Whac-A-Mole has proven successful in fast food restaurants, bus and train stations, game rooms, resorts, shopping centers, airports, motels, fairs and vending companies.

14 years of experience has made Bob's Space Racers America's leading manufacturer of amusement games.

Bob's Space Racers
427 15th Street
Daytona Beach, Florida 32017
904/677-0761

TOMMY GATE



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Revolutionary new magnetic card reader gives you full control over coin-operated games and vending machines. Attaches to your existing equipment. Eliminates change hassles, sorting, and wrapping of coins, token handling and skimming. You sell coded magnetic cards instead of coins or tokens. Each time the card is used, a portion is cut out and stored in the machine...giving you an accurate record and assuring that the card can't be used again when all the prepaid purchases are punched out. Find out about INTERCARD. . . a unique, new way to clean up your coin-operated vending machines and games. Write or call...

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Visit us at Booth 123 at the AOE Show.

Dynamo gears up for foosball

The Dynamo Corporation is taking up the slack in the absence of Tournament Soccer from the world of foosball. Dynamo has developed a new table and will enter a series of promotions designed to keep the foosball enthusiasm alive throughout the United States.

"Foosball is the best money maker an operator can have," asserts Bill Rickett, president of the firm. "At a cost to the operator of about $500, it is easy to recover the investment. And considering the table's longevity, the profit margin is most attractive."

Dynamo will be showing its new table at the Amusement Operators Expo in Chicago.

The new Dynamo foosball piece combines the play features of the Tournament Soccer piece with the sturdiness of the Texas style table. Construction elements will include a one piece cabinet (no lift top) with front door accessibility. Four by four legs (like the ones on Dynamo's pool tables) will support the cabinet which will be reinforced so the sides will remain parallel (will not warp). Enhancements include a metered ball drop, solid steel rods, jumbo handles, a hard ball, laminated surface, and Tournament Soccer size goals.

Rickett is committed to the idea of a viable foosball market. " The product cycle takes about seven years to turn around. As youngsters seek other interests beyond video games, that whole new generation of players will be available for foosball enthusiasm," Rickett contends.

Additionally, Rickett feels that even though foosball is not currently in a "boom" situation, there is sufficient existent player attention to justify Dynamo's new avid pursuit of the table soccer market.

Dynamo's promotional events centered around foosball will be geared to interest a broad base of players.

"Tournament prizes will be attractive, but we don't plan to pursue the big money tours.

"I feel that concept was doomed from the start," says Rickett. "There was just not enough money to be made to support that kind of circuit play. Our tournaments will appeal to a wide range of player ability."

And Rickett insists there will be no empty bank accounts to dissappoint tournament victors.

"Money for winnings will always be placed in escrow before the tournaments begin," he insists.

Hanson employees and customer win Game Plan awards

There are a lot of smiling faces in the Upper Midwest since Game Plan, Inc. of Addison, Illinois offered a unique 3-way promotional program to their distributors. With each game sold, the distributor was awarded credits toward a premium, a trip to Rome. Operators credits toward premiums were also awarded.

President Ray Hibarger of Hanson Distributing Co., Bloomington, Minnesota opted to use the premium portion of this program in the form of an incentive bonus to all company employees.

The program worked well, as the company sold more than 200 Game Plan games and increased company sales 20 percent over last year during the same period.

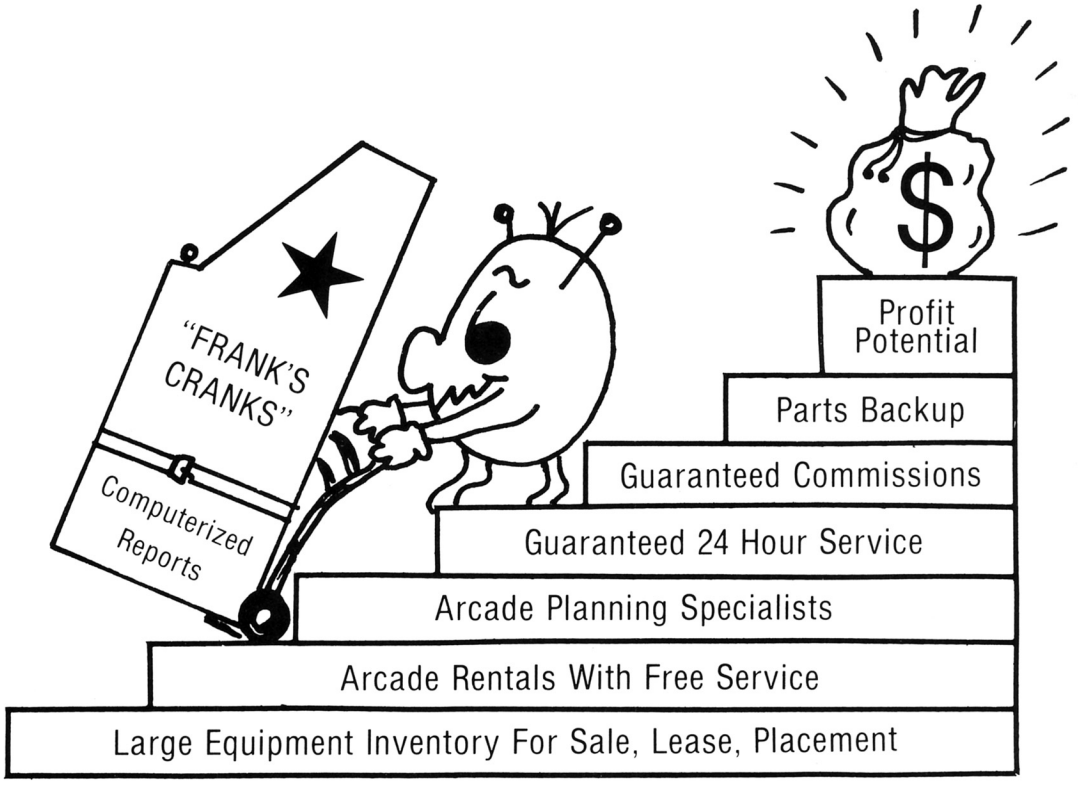
Operators who purchased Game Plan games during the promotion had the opportunity to redeem their "credits" to obtain their choice of eighty different gifts, depending on how many units they purchased.

Hanson reports that even though the premium program has ended, sales of Game Plan's latest game, *Kaos*, continue to be strong.

"BUY A PIECE....GET "PEACE" IN RETURN"

ALPHA-OMEGA AMUSEMENTS

"THE GAMEROOM SPECIALISTS"
FROM ONE PIECE TO 100
SERVING THE TRI-STATE AREA FOR 12 YEARS



YOU CAN BANK ON THE "CRANK"

Contact:

Frank "The Crank" Seninsky
Richard Seninsky
Joe Camarota

3 Coral Street
Edison, NJ 08837
201/738-1800

Venge

Chang

Game-A-Tron adds two

Game-A-Tron Corporation, New Britain, Connecticut is proud to announce the addition of two members to its management staff, Roberto Uenge and Thomas Chang.

Uenge has been appointed as export consultant, working in the areas of Sales & Marketing. He brings his vast experience as managing director of a Tokyo firm and his vast contacts throughout the video industry world-wide. Uenge will pursue closer ties with Japanese manufacturers and expansion into other overseas markets.

Chang will be the operations director. His background in organization coordination, marketing research, and manufacturing functions will be used to lead to a program of increasing productivity and higher quality for the complete Game-A-Tron line.

Dominic Sanzo, Game-A-Tron's board chairman commented: "The addition of these two outstanding people to the Game-A-Tron team shows once again that we are moving to the position as a top innovator in the video game field, with the highest quality products."

Mattel plugs into Atari

Mattel Electronics has introduced a line of home video game cartridges for use on the Atari home video game system.

According to Joshua W. Denham, president of Mattel Electronics, the "new cartridges offer owners of Atari hardware access to markedly improved graphics and gameplay," Denham said. Shipments are slated to begin in early summer and will be supported by extensive introductory advertising and consumer promotions. Mattel Electronics, based in Hawthorne, California, is a division of Mattel Inc.

Operators' lives are frustrating in small town, Indiana

Arcades are under attack by the city council in Carmel, Indiana. Ron Tice, who owns Jungle Jim's arcade in Keystone Square Mall, is suffering the frustrations of dealing with a council unhappy over problems that exist at another of the town's arcades, Porky's Palace.

"I wish that place had never opened," says Tice. "It's causing problems for everybody else."

Tice was pleading for the right to exist in Carmel when he asked at a February council meeting that council members help resolve the problems instead of adding too many restrictions to an existing amusement ordinance.

Tice and Bill Clem, owner of Snoopy's Palace, another of the city's arcades, absorbed the council's wrath as they proclaimed the arcades havens for drug dealing, video addiction, and gambling education. But the essence of the council's attack was centered around the effort to squeeze more licensing dollars out of the arcades.

Councilor Bill Walker contends the ordinance in Carmel is too lenient. He believes that being tougher means charging more money for licensing fees. Walker believes that the city should charge $250 for the first two machines on location, $400 for the next three, and $1,000 for each additional machine.

Those figures, Tice complains, would put him and other arcade owners in the town out of business.

But that's what Mayor Jane Reiman and Councilor David Shepherd want. They support the $1,000 figure, contending that driving the arcades out of business would solve the city's problem of having to deal with juvenile problems that have crept up at Porky's Palace.

When Councilor James Garretson warned that such a high tax would be thrown out of court if it were tested, the mayor replied "So what?"

Reiman continued: "I don't see anything wrong with Carmel doing what it wants to and letting somebody pay to take us to court."

The council then proceeded to discuss ways that the fees could appear justified, such as compiling costs of inspections, licensing, and stepped-up policing at the arcades.

Atari survey points to new operators

Atari, Inc. has released the results of a survey it conducted at the 1981 Amusement and Music Operators Association show. There, 860 operators responded to questions focusing on their length of association with the industry.

The survey results indicated that a significant number of companies have entered the amusement machine business since the surge in interest in video games.

Of the operators interviewed, nearly 25 percent have been in the industry less than two years. Slightly more than that figure have been in the business between three and eight years, leaving less than half of the respondents attending the annual industry show who have been in the coin-op amusement business for more than eight years.

8-ball competitors aim for Reno

The Valley national 8-ball tournament will start winding toward its Reno, Nevada showdown with statewide championships.

In Florida, the Amusement Vending Association will sponsor the state playoffs April 16—18. Six teams will compete in the double elimination tourney and three of those teams will go on to Reno. All six were champions in their respective leagues.

Sponsors of the Florida regional playoffs are Seymour Music of Sarasota and Lawson Music of Winterhaven.

In Ohio, the Music and Amusement Association with the assistance of Van Brackel Music will hold its regional action May 7—9. There, eight teams will do battle to determine the three winning combinations that will travel to Reno.

Operators' lives made easier by hard-working Utah Association

The Utah Amusement Music Association has been involved in a successful campaign for two years, a campaign that is improving the image of the coin-op amusement industry in one of the nation's most conservative states.

Marking the campaign's success was the Association's first state-wide pool tournament, completed February 28.

The tournament, co-sponsored by Miller Beer, held its final round at the Hilton Hotel in Salt Lake City and drew an excited 500 spectators.

There, Rick Jon of Salt Lake took the $1,000 first prize over 37 other finalists.

The $5,000 tournament started at 21 association member service locations. Each location held eight weeks of playoffs and a ninth week finals competition. Winners, and runner-ups from most of the locations, proceeded to the state finals in Salt Lake.

The tournament is just one of the successes reported by Craig Johnson, president of the hard-working Utah Association.

This year, the members have hired a public relations firm, First Marketing Group of Salt Lake, to enhance the image of their industry throughout the state. At an initial cost of approximately $4,000 the firm will direct its efforts to the general public, promoting the good business image of Utah operators. It is beginning its pitch with audio/visual presentations to school PTAs.

"We want to point out our contributions to the communities of our state and portray ourselves as good businessmen," says Johnson.

Johnson's words have the backing of association action. Members' activity with local governing bodies has resulted in good relations with those law makers.

"We wrote the ordinance for Salt Lake County, the state's largest region, and they adopted our ordinance almost to the letter," offers Johnson. "And we are doing the same in other communities."

And the association polices its own locations.

"We have established a board of directors comprised of large company owners and have tried to stop problems before they occur. We have even pulled games out of locations that are leading to problems with our youth. Operators here realize that hurting the industry image is much more of a real problem than losing a location or two."

Cover art available

Willis Industries, the coin-op game graphic design firm, of San Jose, California, is offering an at-cost reprint of *Play Meter*'s Directory Issue cover art at displayable poster size.

The cover art depicts the all-American image of the coin-op field, connecting the coin slot to apple pie, the U.S. flag, baseball, and hot dogs. As an answer to the detractors of the coin industry, the poster is a graphic statement about what is right with coin-op amusement games.

Brian Warkinton, vice president/sales of Willis Industreis, said the full-color poster will be made available at a price that will cover only the printing costs, to all persons in the industry who wish to pin it up in their operations office, game rooms, or showroom.

Interested persons can contact Willis Industries, Dept. PM, 1900 Dobbin Drive, San Jose 95133; or call toll-free: 800/538-7808.

Buffalo hours regulations axed

The New York State Supreme Court has ruled that the city of Buffalo cannot regulate the hours during which game rooms operate.

In a late February judgment the court decided in favor of operators that such a restriction was illegal because of the restraints it put on their ability to operate their businesses.

Supreme Court Justice James B. Kane issued the ruling along with a provision that the city could ban minors from playing the games during school hours.

Operators' attorney, Paul Cambria, indicated that the decision marked the first successful challenge nationally of hours regulating arcade rooms and said the decision would have state-wide bearing on similar ordinance attempts.

Play ball, the new way

If Mizuno Corporation of Osaka, Japan has its way, the "great American pastime" is going to get computerized.

Mizuno, a sporting goods company with international sales of about $600 million a year, is offering Major League Baseball a new line of equipment utilizing microcomputers, mini-transmitters, and robots.

One item, the *Mizuno Electronic Battery* consists of a set of buttons built into a catcher's mitt that can transmit the type of pitch and desired location to a lighted display panel in the pitcher's glove.

The system eliminates signal mix-ups and prevents the opposition from stealing signs.

Ruehle heads sales

Janine Ruehle has been named the new sales manager at Meltec, Inc., Sunnyvale, California, responsible for national sales of *Boom Ball.*

Ms. Ruehle has six years' experience in sales, with the previous three years being in the real estate field. She is a graduate of DeAnza College, Cupertino, and resides in Sunnyvale.

Information about *Boom Ball* is available at the Sunnyvale office of Meltec: 308/738-4422.

Dempsey

Reed

Coinco hires Western reps

James Dempsey has been appointed sales and service representative for the Santa Clara, California branch office of Coin Acceptors, Inc., it was announced by Jim Douglass, vice-president of marketing for Coin Acceptors. Marketed under the trade name of "Coinco," the St. Louis headquartered company is a manufacturer of coin handling equipment for the vending industry.

In his new position, Dempsey will be responsible for Coinco sales and service with customers in the northern California and Nevada areas. For four years prior to joining Coin Acceptors, he was a sales representative for a wholesale firm.

In another move, Howard Reed was appointed sales and service representative for the Minneapolis, Minnesota branch office.

Reed will be responsible for Coinco sales and service with customers located in North and South Dakota, northern Iowa, Minnesota and northwestern Wisconsin. Prior to being appointed sales and service representative, he was repairs supervisor for Coinco's Minneapolis office.

Penn-Ray expands sales staff

Penn-Ray International Corporation announced the appointment of two new sales representatives.

Gary Lemons, formerly parts manager at Palmetto State Distributing, will be covering the Mid-Atlantic area of North Carolina, South Carolina, Maryland, Washington, D.C., Virginia, and eastern Tennessee. Paul Leary, formerly with Wico Corporation, will be covering the mid-Gulf Coast area of Louisiana, Mississippi, and Alabama.

This expands the Penn-Ray sales force to a total of six representatives to serve the amusement industry.

Paramount, Sega share board members

David Rosen, chairman of the board and chief executive officer of Sega Enterprises, Inc. was named a Director of Paramount Pictures Corporation, it was announced by Barry Diller, chairman and chief executive officer of Paramount.

Diller stated: "Two months ago three Paramount directors and offices, Eisner, president, Barron, executive vice-president, and I joined the board of Sega Enterrises. It is with great pleasure that we now welcome David Rosen to Paramount's board of directors and this closer association between our companies.

"The emerging video cassette and video game segments of our respective companies are two of the fastest growing businesses in the entertainment industry today. Both Paramount and Sega are committed to these businesses and we are certain the insights, experience, and interaction between our companies will help both Paramount and Sega to continue to be industry leaders."

Rosen is credited with helping develop the Japanese commercial amusement games market in the mid 1950's. He then expanded the company's marketplace to the United States in the 1970's, where Sega developed into one of the world's leading designers and manufacturers of commercial video games.

Paramount Pictures Corporation is a member of the Leisure Time Group of Gulf-Western Industries, Inc.

IMC to demonstrate computer programs at AOE

Innovative Mangement Consultants will be demonstrating computer programs for coin operators at the Amusement Operator's Expo to be held in Chicago March 26, 27, and 28.

The Operator's Investment Analysis computer program which will be displayed, is a computer program designed to get operators away from studying revenues for machine and location evaluation. The computer program will give a net profit and return on investment for every machine and every location in an amusement company.

A Coin Count Reconciliation Program will also be demonstrated. The program provides operators with a quick and easy way to detect shortages in coin boxes which could result from stealing. It also shows the operator which counters on machines are not operating properly. (See related article, this issue.)

A Machine History Program will also be shown at the Innovative Management Consultant meeting room, which will be located near the registration area for the Amusement Operators Expo. The Machine History Program provides the operator with a complete history of any machine he owns. The program also prints bar charts of a machine's revenues, profits and returns on investment. The Machine History Program is useful for monitoring the drop in revenues and profits of a machine over time.

Also IMC will show a Location Prediction Model Computer Program. The Location Prediction Model determines what an operator can expect in terms of revenues and profits from any proposed new location. The program works on the demographic characteristics of the operator's particular area. Based upon many factors, such as the hours of operation and the traffic through the location, the Location Prediction Model will tell the operator a high, a low, and a most likely revenue and profit profjection for a new location based upon the equipment that the operator plans to place at the location. Innovative Management Consultants invites operators to the IMC conference room (Skyway #261) for a full demonstration of computer programs for the amusement operator.

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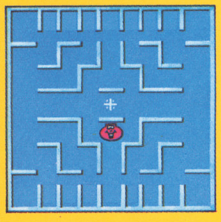

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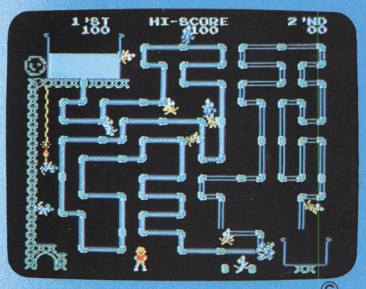

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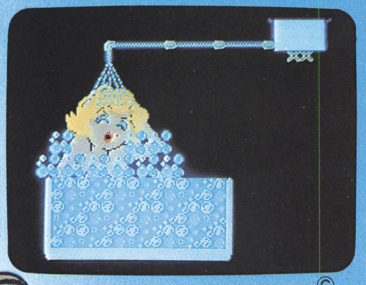

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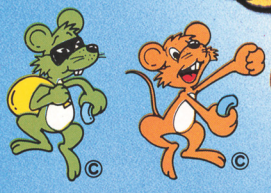

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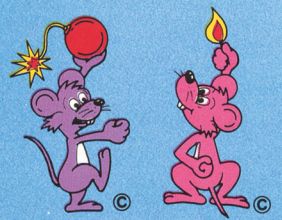

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SPECIFICATION

	TABLE MODEL No. FT11001	TABLE MODEL No. FT21001	UPRIGHT MODEL No. FTA1001	CHILD UPRIGHT MODEL No. FTC1001
C.R.T.	14INCH	20INCH	20INCN	14INCH
Width	850mm	870mm	600mm	466mm
Depth	545mm	560mm	690mm	560mm
Height	625～765 (Can be adjusted in five stages)	685～825 (Can be adjusted in five stages)	1625mm	1375mm
Power Source	100V～240V/ 100W	100V～240V/ 110W	100V～240V/ 110W	100V～240V/ 100W

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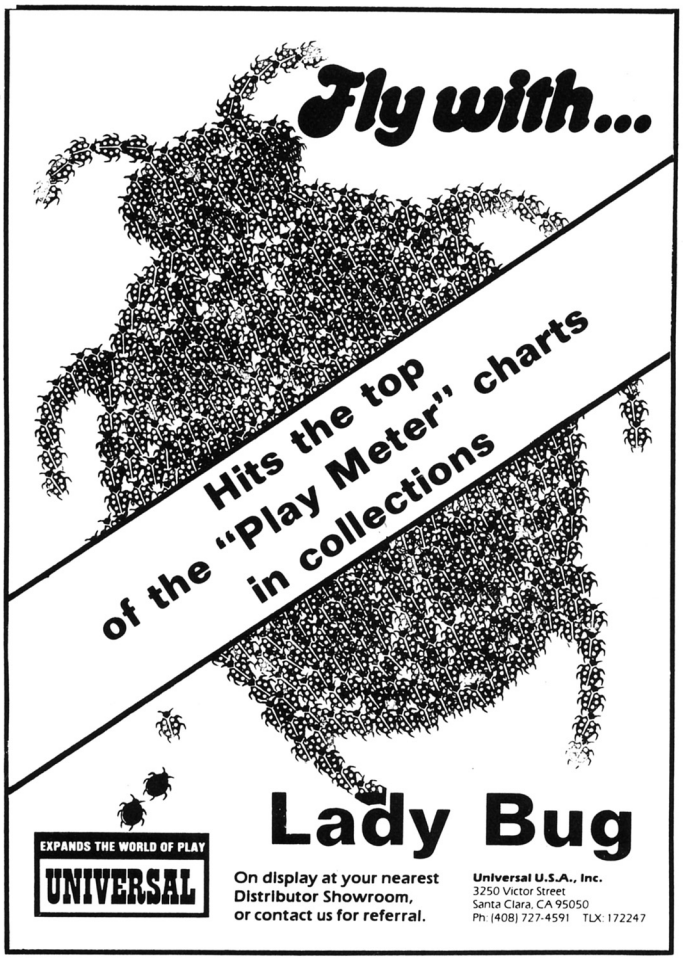

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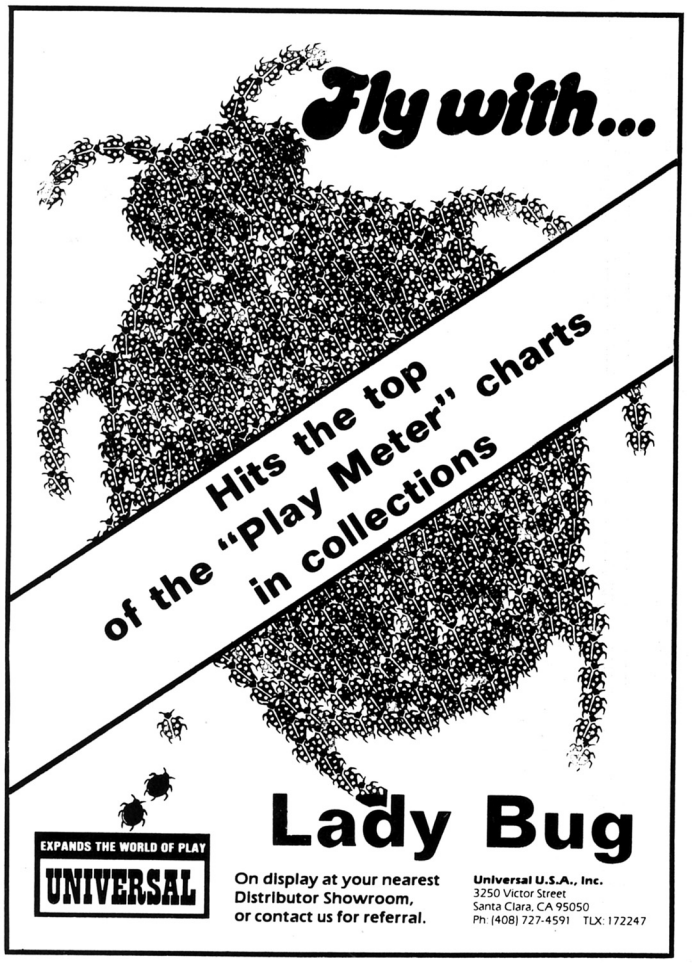

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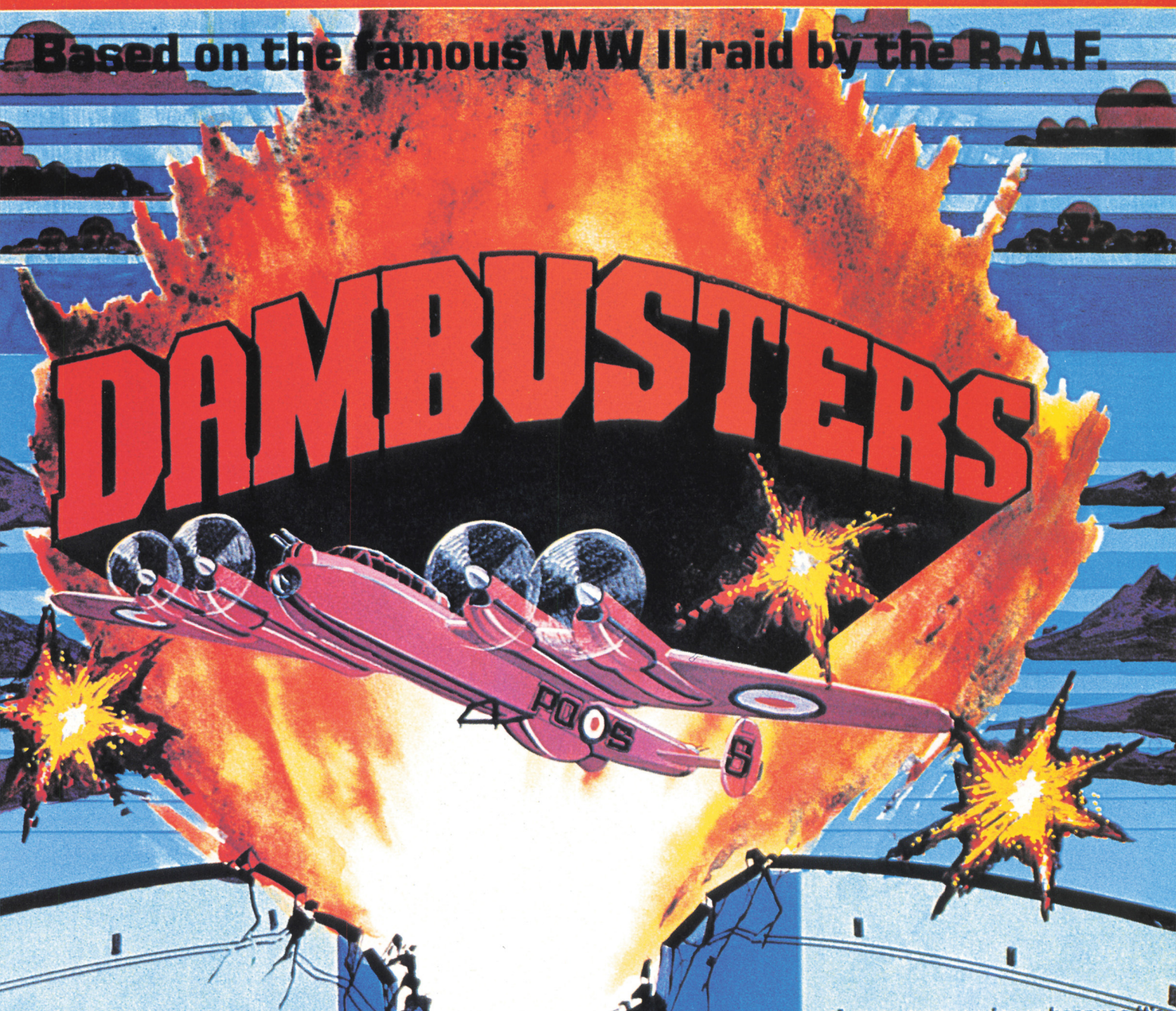

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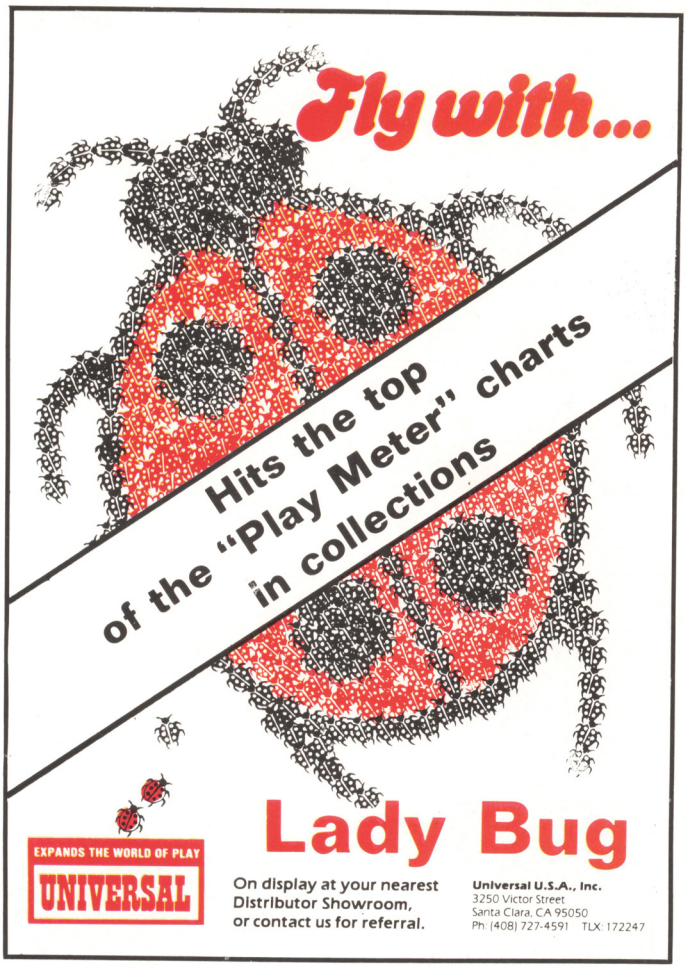

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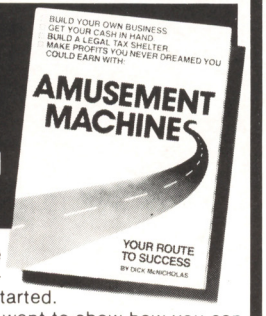

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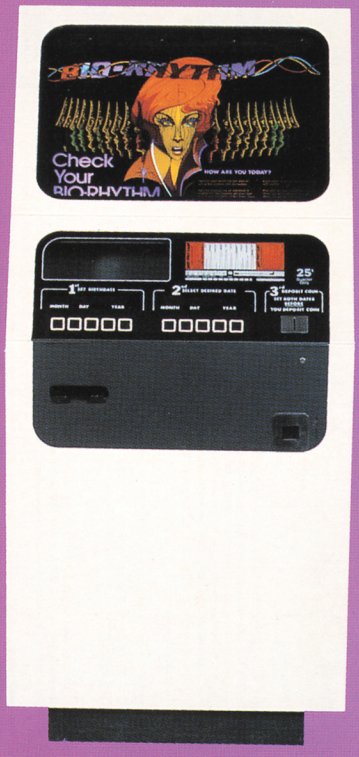

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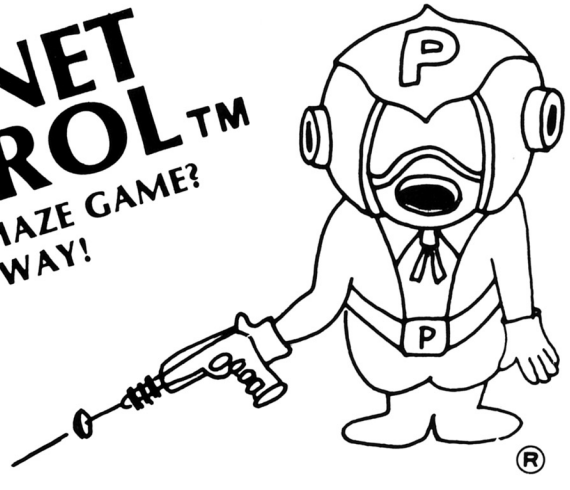

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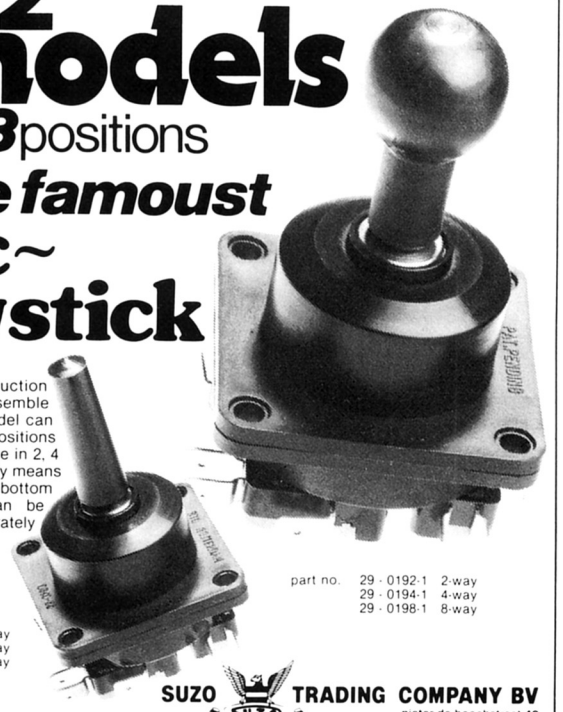

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How to use this machine:
By choosing one button, select the desired biorhythm.

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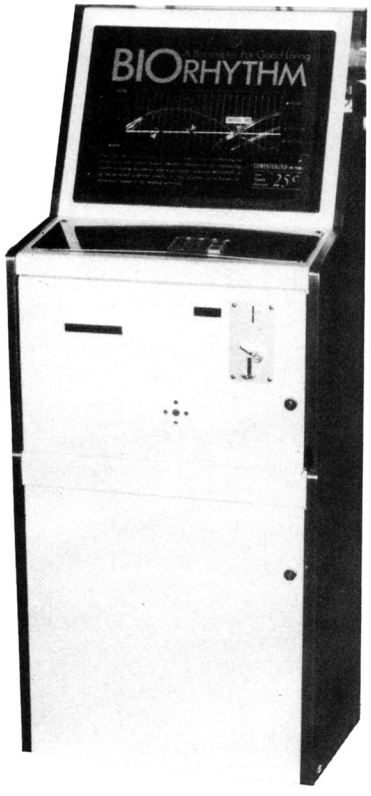
(A two week biorhythm from the day you request will be printed out with a calendar anb comments.)



START 2:
Will calculate your love, driving, studying and gamble luck.
(12 items, such as love, driving, and monetary luck will be printed with an estimation graph and comments.)

START 3:
Will calculate your congeniality with that special person.
(From the birthdays of you and your special person, comments and congeniality percentages wii be printed out for physical, sensitivity, intellectual and total congeniality.)

Procedures:

1. When you want your biorhythm.
1) Insert a coin.
2) Input your date of birth with the keys.
3) Input the day that you want to know about, using the keys.
4) Push the start key. (For two weeks START 1; for a day, START 2.
5) Cut the sheet of paper dispensed.

2. When you want to know your congeniality.
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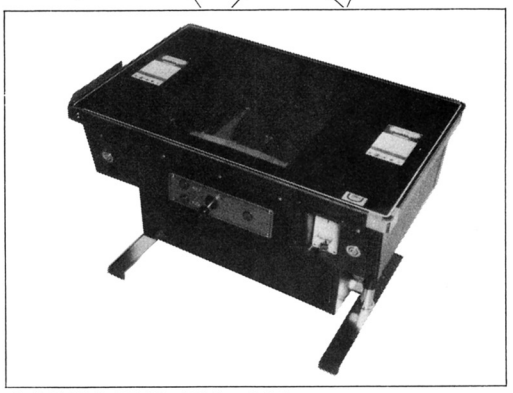
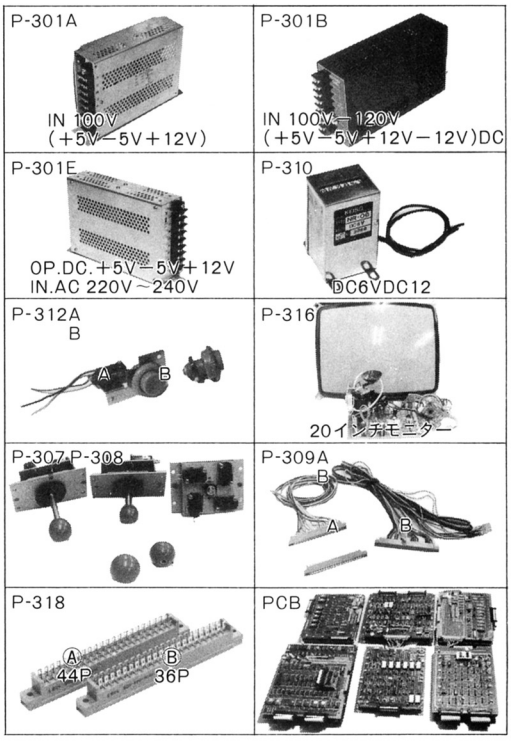


HOW TO PLAY

★To shoot all aliens by missile gun, then, 5 UFOs appear.
★If fail to shoot UFOs, they invade into the earth.
★UFOs shoot laser beams and kidnap human, but if you soot UFOs, bonus points bonus points be gained and rescue people.
★If 3 missile guns are destroyed, game will be finished.

TV-VIDIO game parts list



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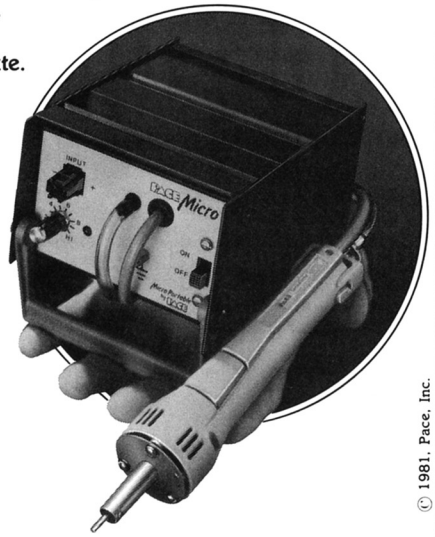

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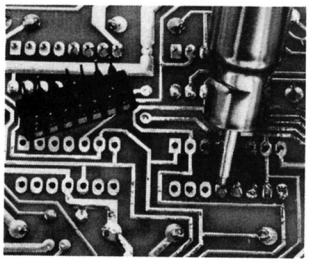

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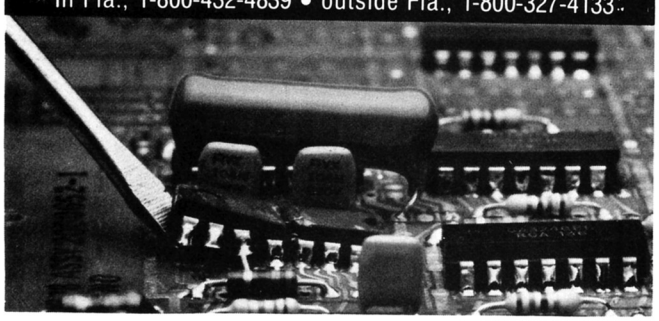

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DISTRIBUTORS AND OPERATORS— BEWARE!

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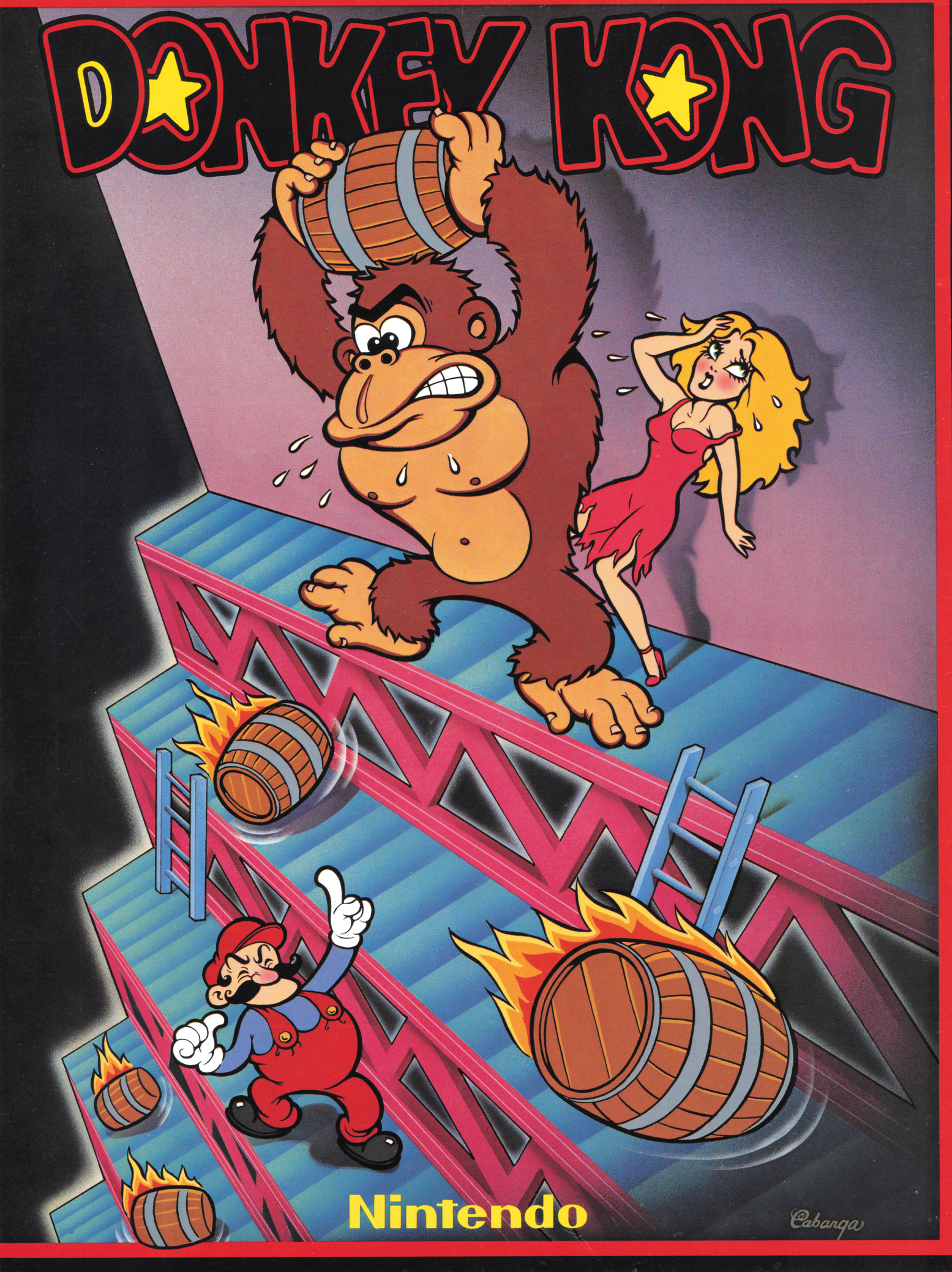
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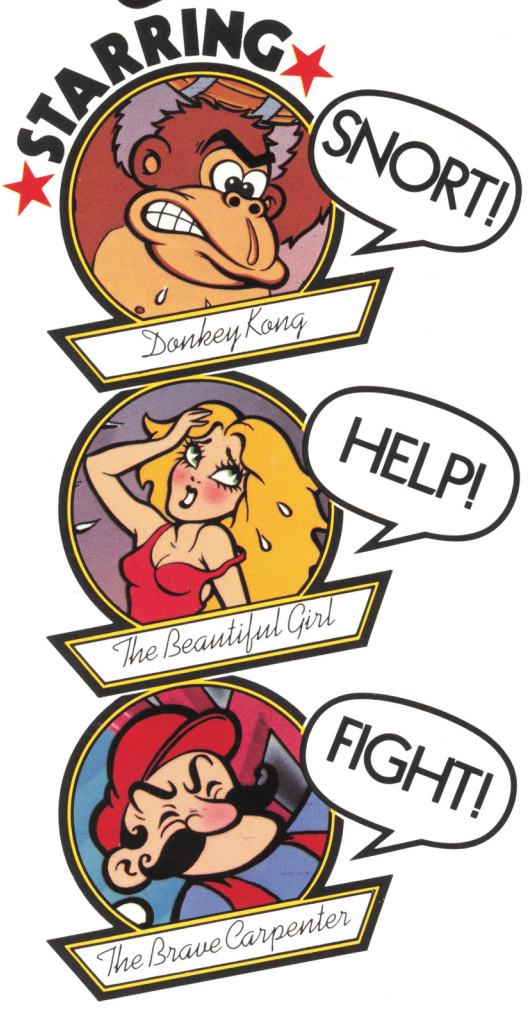
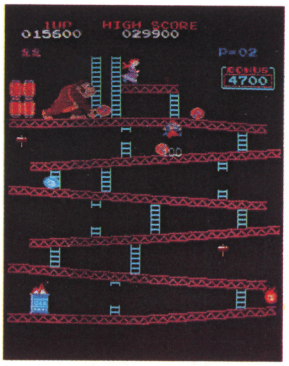
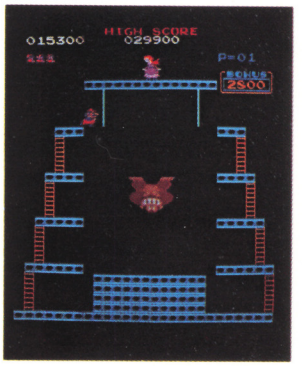


EVERYONE'S GOING APE OVER DONKEY KONG!

"HELP! HELP!" cries the beautiful maiden as she is dragged up a labyrinth of structural beams by the ominous Donkey Kong. "SNORT. SNORT." Foreboding music warns of the eventual doom that awaits the poor girl, lest she somehow be miraculously rescued. "But, wait! Fear not, fair maiden. Little Mario, the carpenter, is in hot pursuit of you this very moment."

Throwing fate to the wind, risking life and limb, or worse, little Mario tries desperately to climb the mighty fortress of steel, to save the lovely lady from the evil Mr. Kong. Little Mario must dodge all manner of obstacles–fireballs, plummeting beams and a barrage of exploding barrels fired at him by Donkey Kong.





Amidst the beautiful girl's constant pleas for help, your challenge is to maneuver little Mario up the steel structure, while helping him to avoid the rapid-fire succession of hazards that come his way.

As little Mario gallantly battles his way up the barriers, he is taunted and teased by Donkey Kong, who brazenly struts back and forth, beating his chest in joyful exuberance at the prospect of having the beautiful girl all to himself. It is your job to get little Mario to the top. For it is there, and only there, that he can send the mighty Donkey Kong to his mortal doom. Leaving little Mario and the beautiful girl to live happily ever after. "SIGH. SIGH."

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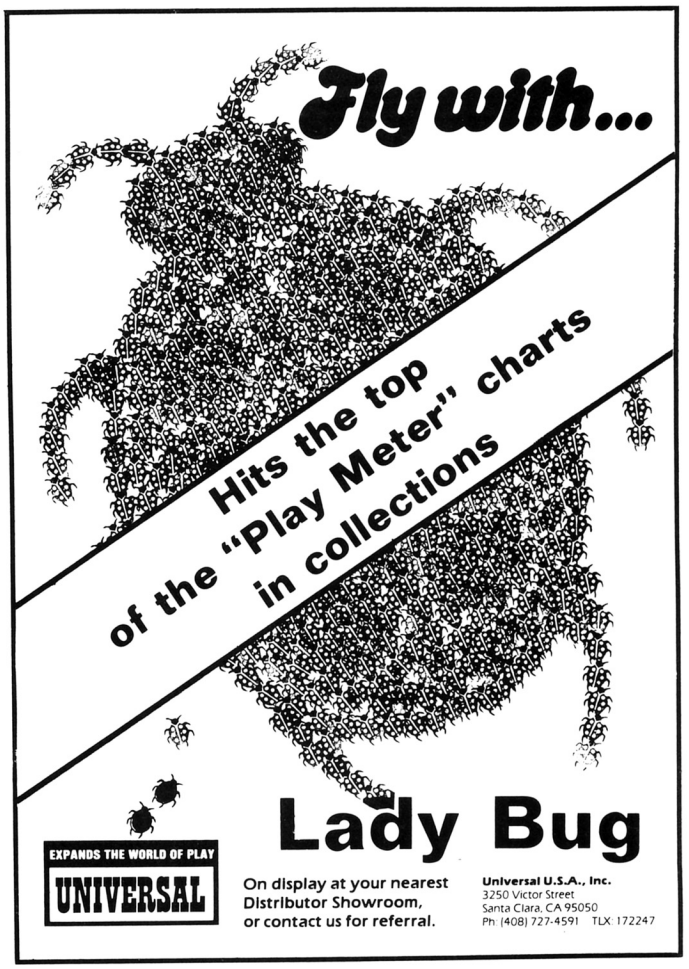

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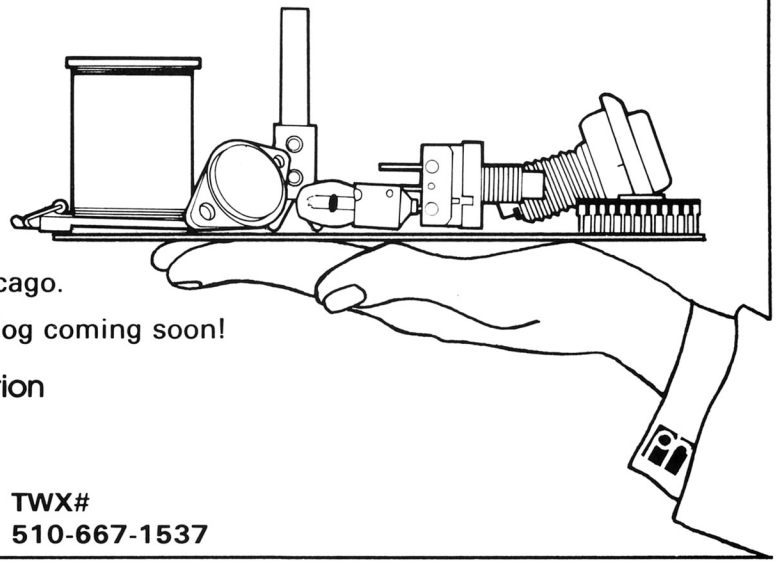

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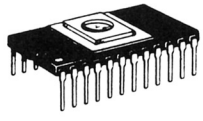

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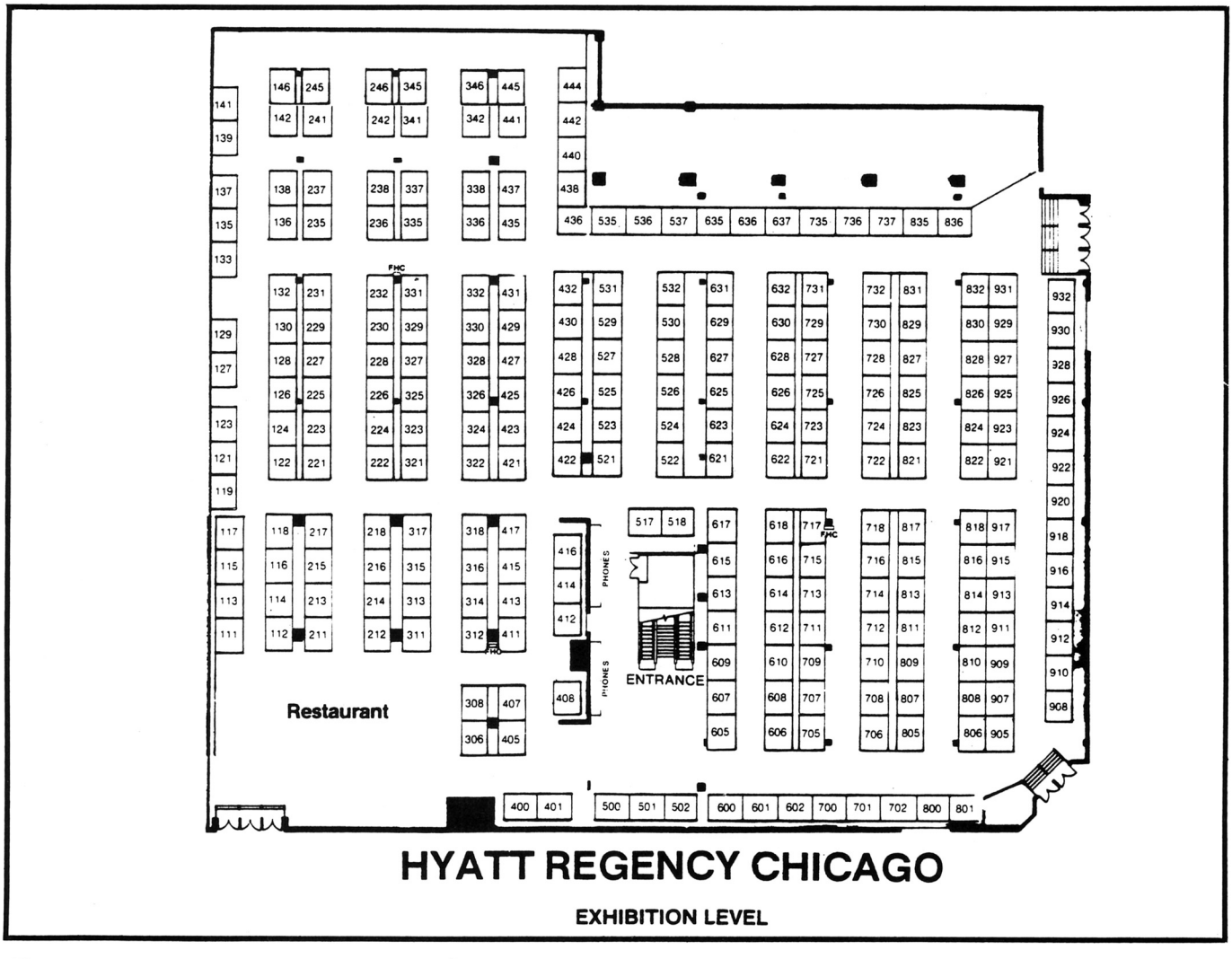

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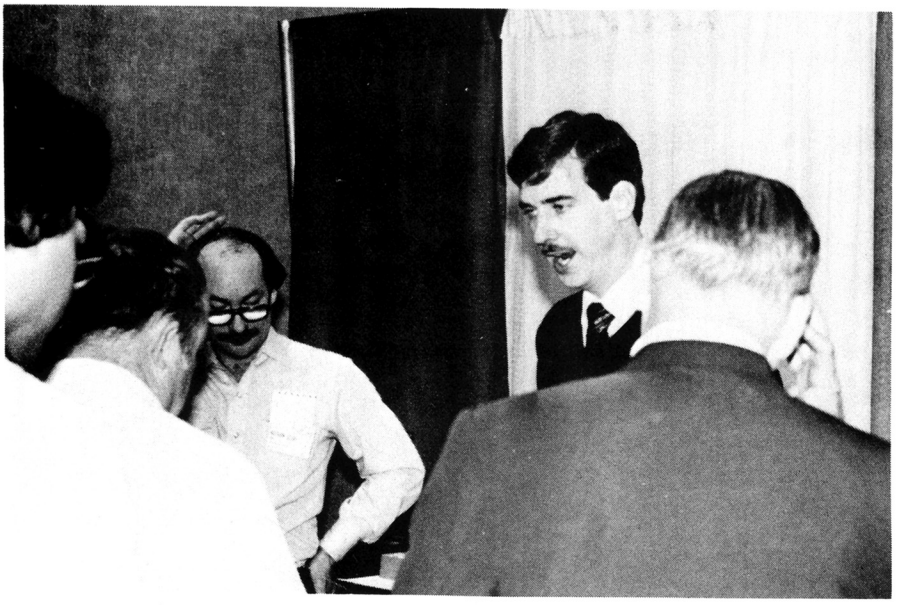
WHAT BEST ON SHOW?

Ask the kids in Kansas City

by Ray E. Tilley



The coin industry pow-wow will be in full swing as exhibitors and operator customers get together on the AOE show floor, March 26—28. Above are some scenes of booth activity in AOE, '81: (top photo) Terry Deutsch of Challenger Products, and (bottom photo) Phyllis Bohrer of Green Duck.

Virtually the entire line of the latest developments in electronic coin-operated games technology will be on display March 26—28 in the Amusement Operators Expo exhibit halls of the Chicago Hyatt Regency downtown. But of all that hardware, software, research, development, and investment represented by the exhibitors—more than ninety percent is likely to be *spinach*.

Spinach? The majority of kids won't touch it, at least not very often, not as often as they grab for peppermint candy. Now, some of the equipment shown here is pure, 100% peppermint. But the best engineers, marketing staff, veteran distributors, and (lo!) trade journalists cannot, we say cannot tell you with iron-clad certainty what is going to become *spinach* and what is going to be *peppermint*, the machinery that's sure to produce that other kind of green stuff from the cash boxes.

The machinery will have to get out on the streets before the ballots that count will come in—from those average kids in Kansas City, New York, San Francisco—who know what they like! We can't tell you, but *they* know the difference right away.

So here at the AOE is a kind of grand guessing game, comprised of nearly 300 exhibit stalls.

It is not entirely a shot in the dark, though, this business of forecasting of the hit games of the near future. The operator/attendee will have, on the one hand, a full complement of seminars to give him the industry's best direction on the fiscal handling of his business and the technical upkeep of his equipment. And on the other hand, he will have in the trade show on the exhibit floor the widest assortment of currently available

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coin-op equipment that is accessible to him in one place at one time.

It will be noticed that the AOE has grown enormously over its exhibit space of 75 contracted booths for 1981 in New Orleans. In that show the exhibitors exuded their pleasure in the turnout of operating companies (whose first interest was shown in the packed menu of seminars), and business on the floor was brisk.

In the current season of Reaganomics and a feared recession that may impact even the supposedly insulated coin-op entertainment industry, exhibitors have been virtually climbing over each other to show roduct in the Chicago AOE. They have come to the AOE at the time of the "second season" on the coin-op calendar, the arcade season and the period of new growth, both in equipment sales and cashbox collections as Americans look toward vacation locales, more leisure time, and a pocketbook of discretionary money for entertainment.

Exhibitors for AOE '82 are vying with their respective hottest products of 1982. The buyer/attendee will have a wide latitude of equipment against which to apply his acumen in the coin-op trade and to project what will be the hits with the players-on-the-street.

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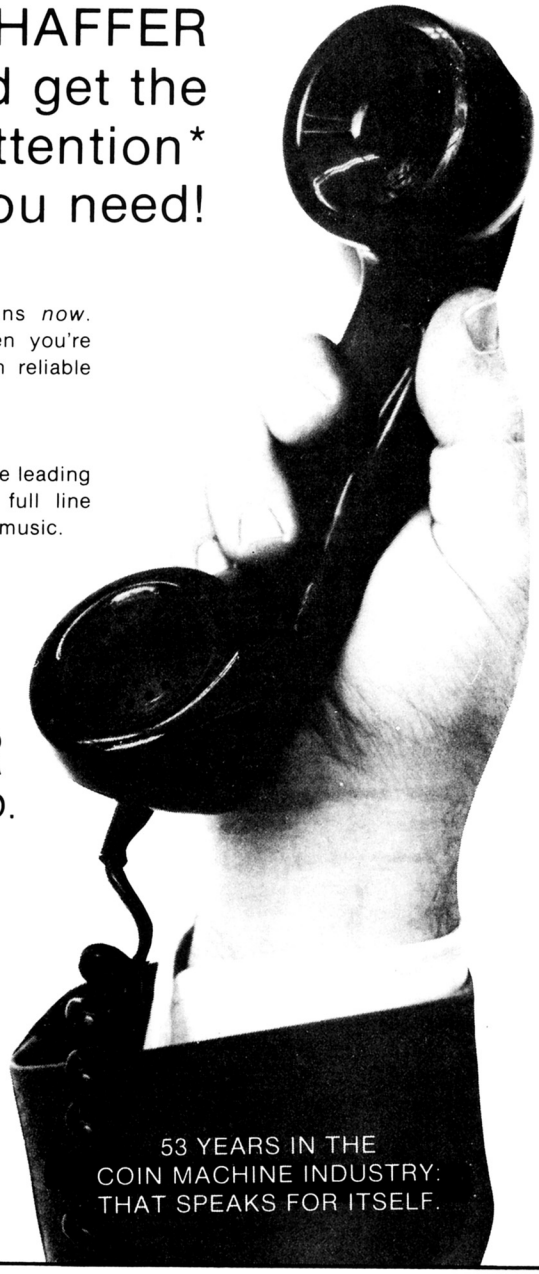

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53 YEARS IN THE COIN MACHINE INDUSTRY: THAT SPEAKS FOR ITSELF.

Spring introduction

For more than a few of the manufacturers represented in the AOE, the product offered here is the result of research lasting a year or more, into both the expected appeal and the reliability of the games. Several were planning surprises, the very first introductions of products here, that were not ready for announcement at this issue's press time earlier in March.

Some of these offerings equal new directions taken by the exhibiting companies. More than one debut here will be a factory's first in-house developed video game. Several of these pieces, factory spokesmen indicate, were reprises of tried-and-proven modes designed to spur player activity in arcades. And in the pinball field, beefed-up equipment and new design techniques were said to be guaranteed to keep that mode active among the player-consumers. Other factories have modified their games that were shown at the AMOA Show last fall or at the ATE in January for a more perfected product in the present Chicago springtime showing, spokesmen said.

As one factory representative said of the video sector, "A soft industry has picked up again," and this manufacturer and others exhibiting in AOE have their "sweetest" equipment on show for the spring buying season for operators.

A tour of the Hyatt Regency floor will reveal, among others, the following displays of amusement equipment.

Videos

The games with the TV monitors are still the darlings of the industry. The competition is awesome, and the attendee can spend three full exhibit days just testing the product.

Sega/Gremlin's 12-booth exhibit can hardly be overlooked. Its layout is opulent, and the devoted space exceeds the manufacturer's area at the fall AMOA Show. "At the AMOA we were broken in two parts," commented Frank Fogleman, vice chairman of Sega/Gremlin. "This is the first opportunity we have had for a display of this magnitude at any trade show."

The prima donna feature of this display is Gremlin's *Zaxxon*, "the game we expect to be the best game of the year." Since December its

tests results have "outstripped anything else in our history so far," said Gremlin's Fogleman.

Zaxxon introduces a "3-dimensional-like" battlefield which allows the player to maneuver with his four-way joystick much like being an actual fighter pilot. If he conquers a tricky space fortress, he earns a confrontation with a powerful enemy robot armed with homing missiles.

In the Gremlin/Sega stand also will be *Turbo*, the computer video driving game which was shown as a prototype at the AMOA and is now being delivered in large numbers, said Fogleman. Three-dimensional realism is the mark of this Gremlin product also.

The new game *005* from Gremlin will also be on show, as will *Frogger* in cocktail models.

Since booths in the Gremlin area will feature videotape displays on the manufacturer's convertible game system. The visitor will notice the Gremlin/Sega archway of 16 color monitors repeating the game play of its videos in multiples of four at 12-foot height.

Williams Electronics will debut its new video *Robotron 2084* which it expects to be the hit game to follow *Star Gate* and *Defender*. Like its predecessors, the game features a variety of enemy things: the Hulks, Grunts, Sphereoids, Enforcers, and the Brains. These and more features bedevil the player, who is cast into "the future" where robots have wiped out most of humanity and people must be protected from the "electronic men" who want to reprogram their minds.

Well, Williams seems to hope that *Robotron* will reprogram the players on another complex video creation from North California Avenue.

The Chicago games maker is also showing *Hyperball*, the pingame that has a video's fast action and which a Williams representative said is "testing out of sight." *Hyperball* was previewed at the 1981 AMOA Show.

Around the Williams stands, too, will be the *Star Gate* video. And, unless we miss our guess, there will be the booth design feature of a Broadway-like chain of flashing light bulbs.

Moving on down the aisles, Midway Manufacturing will be showing its current hits. *Pac-Man*, his mate *Ms Pac-Man*, space action *Galaga*, the new *Bosconian*, and comic-action *Kick-man* will be shown off by the Franklin Park team. Midway's marketing chief, Stan Jarocki, said that one or two as yet unseen new videos may be shown at the AOE in prototype form.

Word wasn't out as to whether Midway's planned new Disney movie tie-in *Tron* video game would be shown at AOE.

Cinematronics Inc. will be showing off three new videos, two of which will be hitting distributor showrooms this month, according to the El Cajon, California factory's spokesmen.

War of the Worlds, a space action game, will be "sampled by request only," and will be displayed in the Chicago show.

Boxing Bugs is Cinematronics' first release of its new color X-Y Wells-Gardner monitor feature and accompanying electronics. Sales Manager Steve Blattspeiler described it as a "cutesy-type theme but with associated macho play appeal." The game features a center-screen octogon, inside which a two-ended tube shoots fireballs from one (which drive bombs away) and a boxing glove on the other (which scores points by slapping bugs).

The third video, *Jack's Giant Killer*, released just prior to the AOE show, will be displayed in upright and table version. This game is based on a storybook theme, "Jack and the Beanstalk," and is a raster screen game licensed from a Japanese originator, said Blattspeiler. Its sequences complete the story of the fairy tale, and the microprocessor is complete with a 48K memory.

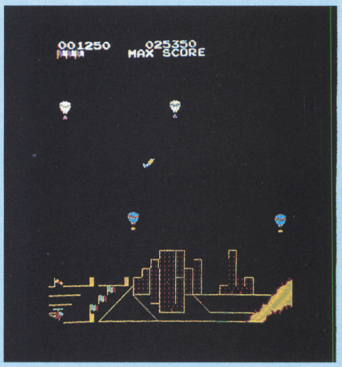
The spokesman said Cinematronics has high hopes for *Jack's Giant Killer*. The company is putting its money where its hopes are: In conjuction with the introduction of the game, the exhibitor is offering a one-ounce pure gold egg to anyone at the AOE who can complete the sequence to the point where the character kisses the girl, according to Mike Pugliesi of Cinematroncs.

This exhibit, with the Well-Gardner monitor games, "marks the start of a new generation of color X-Y games for Cinematronics," said Blattspeiler.

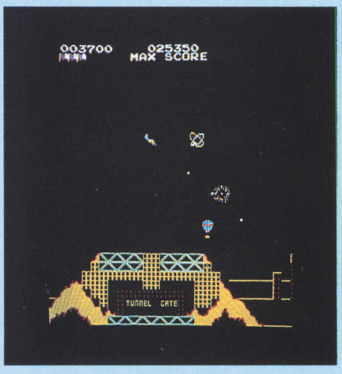
Much is new at the booths of Exidy, Inc., where spokesperson Nancy Duesing said excitement is building around *Victory*, the Exidy video shown at the AMOA and which now has final developments completed in its software computer package.

Victory's system allows a wide selection of accounting for the operator. It will log how many plays the game sold, how many two-player games, and the number of

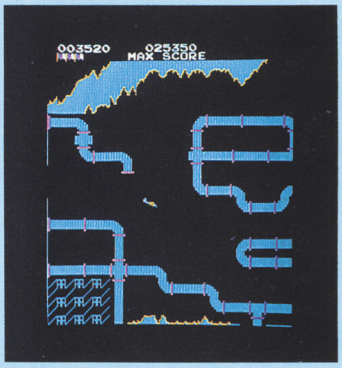
Loopine



As the Player begins his flight into Adventure-Land, his airplane is quickly surrounded by hot air balloons. WATCH OUT! These seemingly innocent colorful objects mean destruction.



Immediately the Players flying skills are tested. The hot air balloons challenge and engage the Player in a fierce dogfight. The Player must loop his plane to avoid and destroy the swirling balloons.



As the Player continues his journey into Adventure-Land he encounters the Maze Tunnel. Now the Player must guide and loop his airplane through the labyrinth with precision movements.

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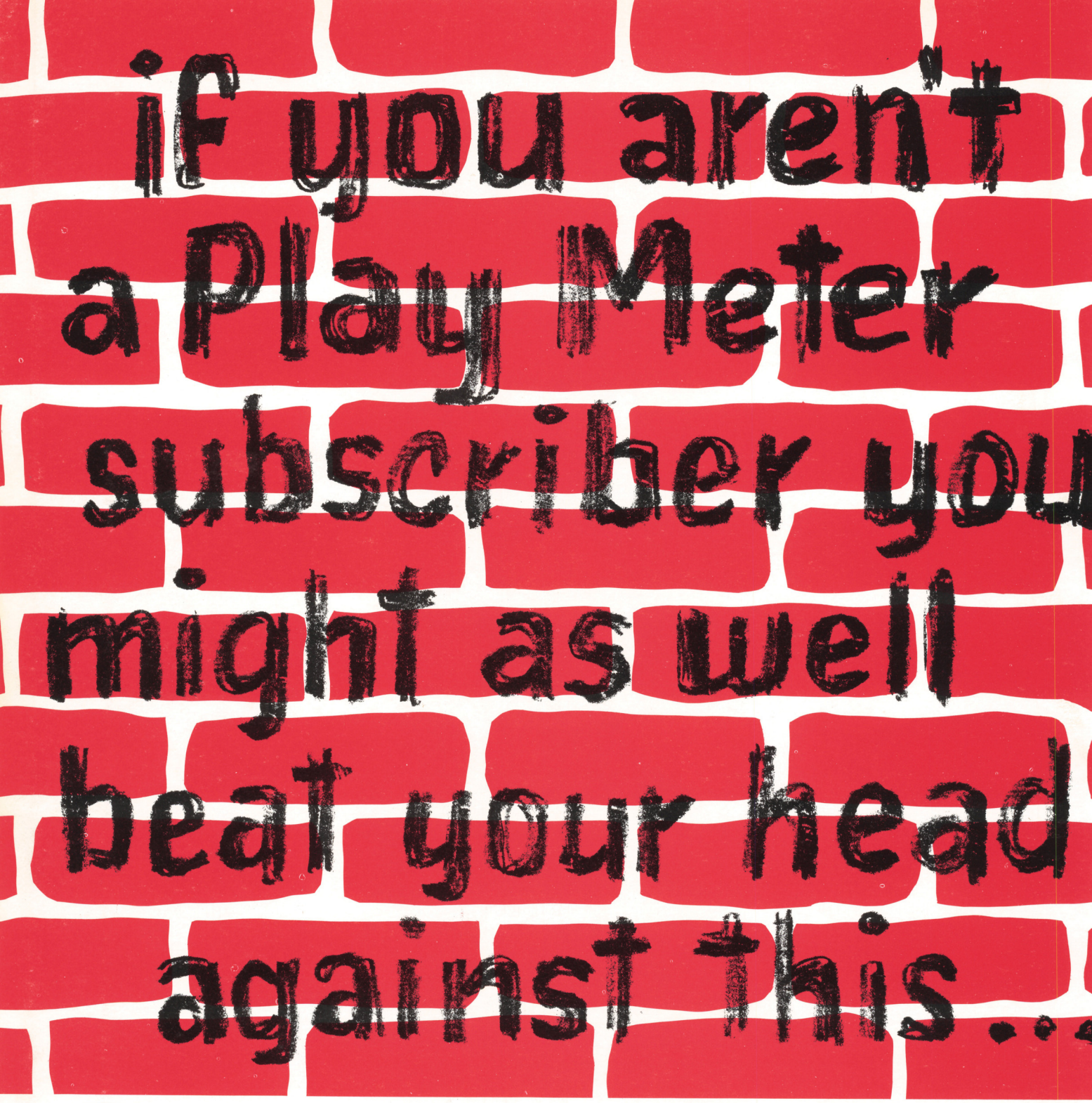

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"doomsday" button uses. Deusing noted the operator options in the software which allow fine-tuning to increase the game's difficulty level according to location.

The advanced space-theme game features paratroopers which bail out of a plane to unleash deadly Quarks that are locked-up on the ground and then are able to seek out the player's man; so, the player must know that enemy to seek in order to master the game.

For distributors, the Exidy package sports a demonstration mode that allows the handler to "cheat" during free play and to show advanced levels of the game—which the players, but perhaps not the operator on first play, would be able to achieve. (As we have noted in past shows coverage, the operator-player is often unable to see the more complex points of a video game demonstrated in cursory play.) This "cheat" option is open to the operator also, to show the higher levels of play action during free play.

Exidy is also showing its *Mousetrap*, which is currently ranking in *Play Meter*'s Equipment Poll.

Taito America will be exhibiting at the AOE its hit video game *Qix* and its current *Alpine Ski*. In addition, a couple of new in-house developed video games are in the works from the Chicago factory, but at this issue's press deadline, it was not decided which would be on show.

D. Gottlieb & Co. will send up battle flags to signal its second attack on the video market at the AOE. The company will show *Reactor*, its first in-house developed video game, which utilizes a "twice as powerful" memory capacity compared to existing videos, said a Gottlieb spokesman. "This allows colors, speed and challenge in *Reactor* that is unequaled today," said Jack Hubka, at Northlake.

Reactor was only recently prototyped and has been tested in arcades with "a very positive reaction," he added. It is symbolic, too, of a year's testing effort at D. Gottlieb & Co., after a period in which the manufacturer had not had a peppermint-flavored video on the domestic market.

That effort embraced both research on "how to put a game together"—from the standpoint of what features the operators wanted most—and entailed market studies of "focus groups" of players, to find what they like in the way of controls, angle of the screen, and other preferences, Hubka said.

The resulting video game, *Reactor* is an abstract type of theme involving survival inside a rectangle while a "reactor" is growing larger in the center, making the survival zone progressively smaller while the player must bounce opposing "dots" into the box's walls to score points. The player uses a track-ball control to do this and to avoid the growing reactor.

Gottlieb also plans two new pieces, one electronic and one mechanical, for eyes only at their AOE debut.

At Rock-Ola's stand, the producer's two new videos *Jump Bug* and *Fantasy* will be on display. The full line of coin-op phonographs from Rock-Ola will also be shown, with the *488-1* featured with its "Golden Sunset" design which has reportedly made it the star of music entertainment sales, said Rock-Ola marketing chief Frank Baxpehler.

Game-A-Tron's equipment on show will include current video games *Dambusters* and *Got-Ya*. Ken Vezina at the New Britain, Connecticut factory said plans are to also show "a brand new, exciting video game at the AOE" as well.

Nichibutsu will be showing its

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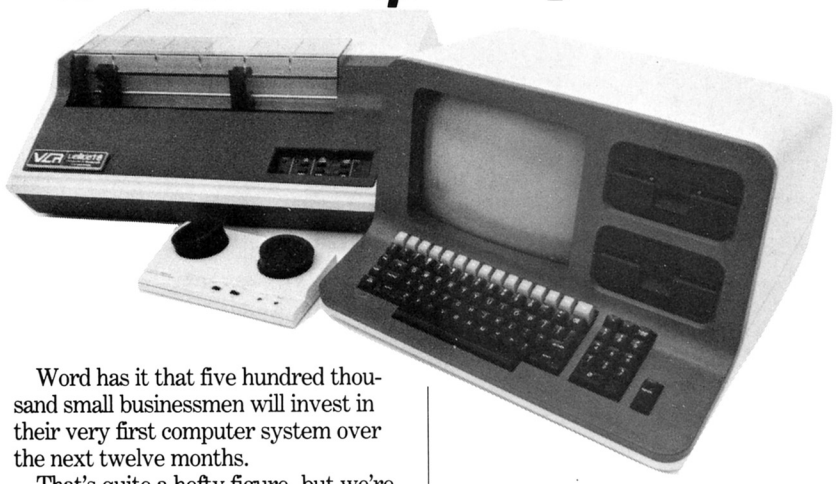

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video *Frisky Tom*, somewhat modified for easier play by the show-goer, said Brian Ogihara, speaking for the Gardena, California manufacturer. New from the Japan-based firm will be *Gomoku*, previewed in cocktail form. This game is based on the traditional Japanese chess-type game by that name, which means "five stones" in Japanese.

On show by Nichibutsu also will be *Moon Shuttle* and *Crazy Climber* videos.

Stern Electronics will be showing its new video *Frenzy*, described as an advanced version of *Berzerk*, Stern's first video hit. *Frenzy* features rebounding walls and new play features spun off its older cousin.

Stern also has *Amidar* for show, and this game's play has been compared to *Qix* and *Pac-Man* combined for its abstract type play.

Dynamo Corp., the Grand Prairie, Texas manufacturer of soccer tables and pool tables, in addition to that coin-op equipment will have its licensed video game *L'il Hustler* on exhibit. Dynamo is also working toward producing further video lines and may have another game on view at the show, said Bill Rickett, president.

Compu-Game, of Los Angeles, will be showing its electro-mechanical line of games including *The Driver* for children's play locations. Its licensed videos will also be on display, said Compu-Game spokesman Wayne Crawford.

GDI, Inc., having entered the video market last year, will display its *Red Alert*, which, although out of production now, is still in the distribution pipeline. Bob Breither, vice president/sales of the Chicago firm, said, *Thief* videos, licensed from Pacific Novelty, will be shown in cocktail table versions. He added that plans are to show another new GDI video as well. "We are diligently working on building our own games rather than licensing products," he commented.

Plans of other video-manufacturer exhibitors were not complete at press time of this issue.

Pins

In a market sector that only two years ago was being criticized for "lack of imagination," pinball manufacturers are currently flexing their muscles with innovations that could well keep the coin-op mode viable—if it is not indeed too late, and the animal is dying.

Life-signs that will be displayed at AOE include Bally's introduction of a neo-pingame along the lines of Williams' *Hyperball*; Gottlieb's *Caveman*, which incorporates a video feature for the first time; Stern's debut of a pingame with a molded playfield; and Williams' aforementioned *Hyperball* and its hyper-action gun-'em-down firing mechanism.

Stern in its *Orbiter 1* has added another dimension to the escalating number of "levels" in a pingame. This game on exhibit features hills and rills on its playfield—which has a molded durable overlay, allowing the ball in action to glide over the design features on its way to scoring or draining.

Meanwhile, Stern's *Iron Maiden* pingame is a two-level creation which, the manufacturer boasts, includes "everything including the kitchen sink." (Apparently, we will find a faucet underneath the box, or perhaps a bar location can tap a keg of beer inside the game; we shall see.)

Floating over to Gottlieb's booths, we will find its new conventional (single-level) pin, *Devil's Dare* and the manufacturer's new solid state System 80-A, an update of the electronic works it introduced at AOE '81, now having a seven-digit LED display for all players' scores and other enhanced features. Self-test capacities and modern coin credit combination systems are cited as easier to service.

Caveman, the pingame-video, sports the System 80-A, and this game is now in its shippable form. Factory spokesmen promised in *Caveman* "a wild and zany chase through a prehistoric maze" in the video portion which follows after challenging pinball layout features are conquered by the player.

Bally meanwhile refuses to be counted out (while some in the industry are giving pinball the count of 10, as in boxing, not as in Bo Derek) and the boys from Bensenville have on display two very different pins.

Rapid Fire is the Bally pin with the gun-type firing mechanism similarly seen in *Hyperball*. "With *Rapid Fire*, you are playing almost a Space Invaders (video) game," said Bally Marketing Vice President Tom Nieman, who claims a superior "gun" mechanism in this game with a balls-per-minute rate that is said to be the fastest while also reliable in play. Pistol grips each have a single trigger and a thumb-activated "force field" feature to protect from laser-lights' bombardment that would scotch the game. The player also gets a doomsday button on the front panel to halt sudden bombardment.

Rapid Fire's cabinet holds the scoring displays just above the playfield, at eye level for quick reference during a game. The entire electronics package is compatible with existing Ballys.

Next on the Bally stand is "another member of the family"—*Mr. and Mrs. Pac-Man* (just when you thought another spin-off from the Gobblers wasn't possible?)—and its light grid in mid-field permitting play in the "Pac-Man maze." When pingame objectives are achieved, the player gets entry to this maze and the flipper buttons control an arrow's direction in the grid to attempt filling the maze (a la *Make Trax*, or the reverse of *Pac-Man*.

Wrapping up *Mr. and Mrs. Pac-Man* is a futuristic cabinet graphics and the eye-level scoring digitals.

(When we asked when we could expect "*Son of Pac-Man*," Nieman quipped, "That's in July...")

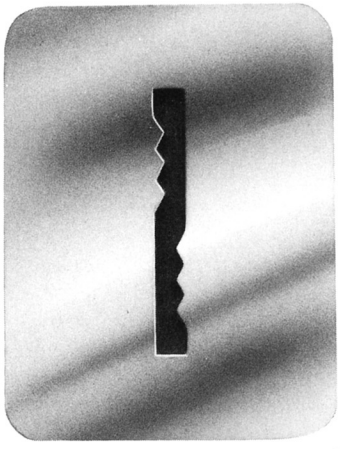
The Show for the Eighties

Amusement Operators Expo, industry insiders are acknowledging, has become "the place to be" after a track record of only two years. Its seminar program, the full contingent of exhibitors for AOE '82, and its open-ended discussion forum, continue to make industry news.

Play Meter, as co-sponsor of the show, had attempted to delineate the AOE as an *amusement games only* trade gathering. As a policy of this magazine, a divorcement of pseudo-gambling type videos and other devices was started in order to underscore the nationwide problem of officials who attempt to ban all amusement games when a problem of locally operated card-type games has been discovered.

However, that attempt was blocked for this March show after threats of lawsuit, concerning cancellation of existing contracts, led the show's organizers to reinstate the exhibitors of games such as draw poker videos. Thus, the attendee will see, on the Hyatt Regency floor, gaming-type equipment which the sponsors have vowed to exclude for AOE 1983.

Other than the amusement manufacturers detailed above, a wide range of support, supply, and service firms are displaying in AOE '82. A complete listing of the more than 180 exhibitors appears elsewhere in this issue. •



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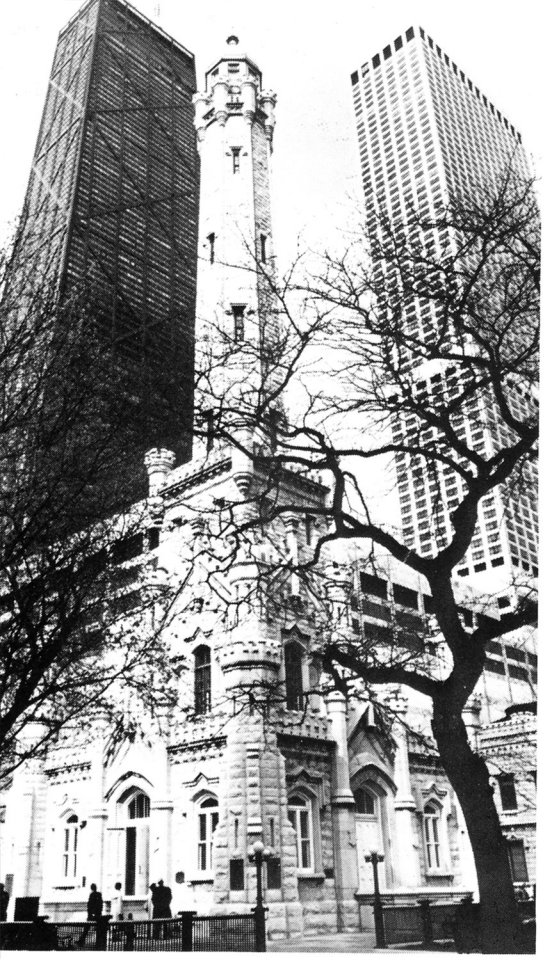


Architecture is striking in the Windy City: (above) the Water Tower constructed in 1869 survived the Great Fire in 1871, and a modern complex now surrounds the present Visitor Information Center; (below) 'under the clock' is a famed meeting point and reference landmark on State Street

An off-hours guide for AOE show-goers

Having fun and culture in Chicago

All photos courtesy, Chicago Convention and Tourism Bureau

Chicago goes all the way to meet its visitors' needs. No matter what your interest, you'll find an abundance to keep you happy here. Fine hotels, superb restaurants, excellent touring, sports, fascinating museums, zoos (including some especially for children), every kind of shopping, top name entertainment, fine transportation...Chicago boasts them all, and more.

The traveler here reaps benefits from accommodations set up for the vast number of business and convention travelers who flock here annually. Chicago accommodates a lot of people, and probably has more fine hotel and motel rooms than any other city in the world. These range from elegant establishments which lure the jet set and top business executives—to the family hotels and motels with a low price tag. And there is a whole range of accommodations in between.

Chicago is the home of the "most, biggest, and best" in several areas. For example: this is the world's busiest air, rail, and truck center. The Board of Trade here is the world's largest grain exchange, and the Chicago Mercantile Exchange is the leading market for farm commodities.

Food? Chicago is a true melting—and cooking—pot, and the restaurants show it. You can find German, French, Mexican, Chinese, Polish, Japanese, Polynesian, Russian, Greek, Korean, Turkish, Italian...and the list goes on and on. Price? A couple can do well for as little as $6 for a dinner, or go as high as $150. Do plan to try at least one of Chicago's top restaurants.

Do your children like to push buttons and get into things? Bring them to Chicago's famous Museum of Science and Industry where there are thousands of buttons to push, wheels to turn, and countless things to explore from a coal mine to a captured German submarine to Colleen Moore's famous Fairy Castle.

Chicago is a city of museums. These range from the Art Institute with its famous collections of Oriental works and French Impressionists to the Field Museum of Natural History, Shedd Aquarium, Museum of Contemporary Art, Oriental Institute on the University of Chicago campus, Adler Planetarium, to special museums which highlight health, Polish history, or Chicago's past at the Historical Society.

Chicago Night Life

Chicago offers Amusement Operators Expo visitors an exciting night-time mix of music, theater, and film as well as opera and concerts. World famous as a center for jazz in the '20s and '30, Chicago has

Sights in Chicago are stunning: a few here are (clockwise from left) the skylight-roofed central hall at the Field Museum of Natural History; Adler Planetarium and statue of pioneer astronomer Copernicus signal the visitor to the Science Complex, built underground; like chess pieces stand the lakefront structures—AOE show site Hyatt Regency is near white marble Standard Oil Building, far right is the skyline.

recently rebuilt the reputation. Whether you like mainstream dixieland or experimental jazz, you can hear it every night at spots like Milt Trenier's Show Lounge, Rick's Cafe Americain, and the Backroom. (Call Visitor Eventline 24 hours a day for information on entertainment.)

Blues, folk, country, and bluegrass performers can be heard throughout the year at establishments with names like Wise Fool's Pub, Biddy Mulligan's, and Redford's.

Chicago's Near North Side offers an exciting mix of nightly entertainment. Rush Street is lined with supper clubs, lounges, and night clubs. Division Street is the home of dancing disco spots like the BBC and the Rookery. Old Town and New Town, areas on the North Side, contain many night spots, including Chicago's famous home of satire, Second City (which gave birth to the "Blues Brothers" and to Bill Murray).

North Lincoln Avenue is especially popular with its great variety of pubs featuring all kinds of music. Among the well-known Lincoln Avenue establishments are John Barleycorn Memorial Pub, Orphan's, Kingston Mines, and Oxford's. Top name entertainers appear at the Park West, Milt Trenier's Show Lounge, and Rick's Cafe Americain.

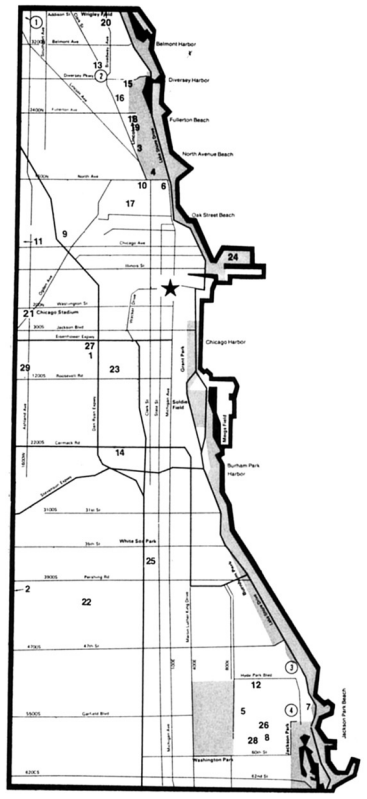
For classical music lovers, Chicago's Civic Opera House is

home of the famed Lyric Opera, which performs during its late fall and early winter season. The Civic Opera House also presents performances by visiting ballet troupes, musical groups, and folk dancers. Orchestra Hall on Michigan Avenue is home of the world-famous Chicago Symphony Orchestra and its conductor, Sir George Solti. Also featured here are recitals by soloists and orchestral groups. Tickets should be ordered far in advance

The Auditorium Theatre—an architectural landmark—also is showcase for recitals and concerts by well-known classical musicians and popular artists.

Chicago offers theaters which often feature top-name Hollywood stars in serious drama or musicals. The Drury Lane Theatres both downtown and in the suburbs offer year round comedy and drama featuring the most familiar faces in show business. Those theaters located in the suburbs may be reached easily on Chicago's expressways or suburban train systems. In addition, theaters where you dine before seeing a show are popular in Chicago.

If your preference is for cinema, downtown Chicago has many first-run movie theaters. Several neighborhood theaters and various Chicago-area institutions, including the Art Institute and the University of Chicago, feature revivals of classical films of the past.



AOE show site at Hyatt Regency (large dot on map above), Wacker and Michigan, is near Navy Pier (24) at Chicago Harbor.

Shopping in Chicago

From oriental rugs and cooking utensils to antique English silver and furniture to American pottery and ceramics—all items can be purchased in Chicago, an international shopping center.

State Street in the downtown Loop area has recently converted into the world's largest mall. The 9-block long mall, closed to all vehicular traffic except buses, is lined with shops and stores, including the world-famous Marshall Field, Carson Pirie Scott, Goldblatt, Montgomery Ward, Sears Roebuck, and Wiebolt Department stores. In fact, all of these stores have their headquarters in Chicago.

Along with the large department stores in the State Street Mall, a variety of smaller-scale establishments cater to every taste and budget. There are jewelry stores, high-fashion salons, specialty and gift shops, furriers, and art galleries.

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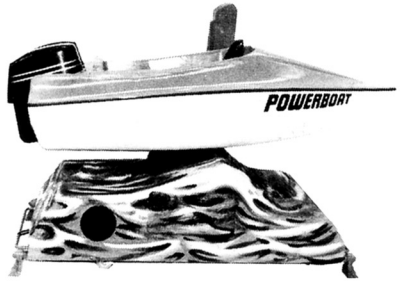

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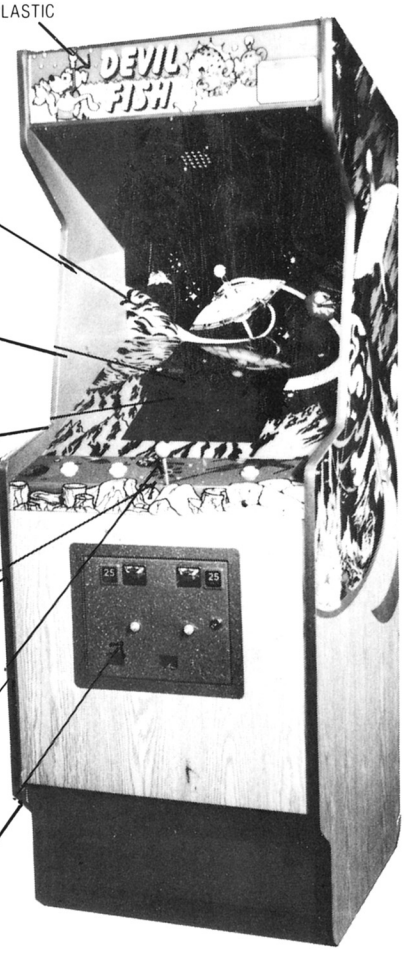

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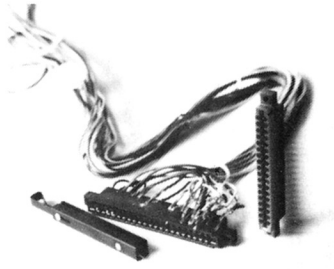

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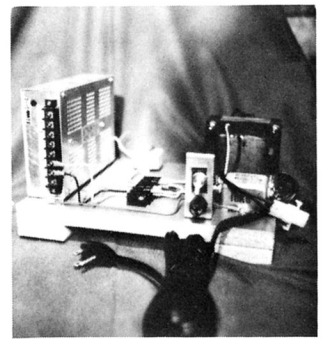

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the State Street Mall, is known for its book, jewelry, record, art, and photographic supply stores—all nearby the Hyatt Regency AOE Show site.

Just a few minutes' walk to the north and east of the Loop is Chicago's "Magnificent Mile"—dozens of luxury shops and galleries along North Michigan Avenue starting at the Chicago River and extending north to Oak Street. It's a favorite of buyers and window shoppers alike. Visit the Water Tower Place, a seven-story marble structure with an atrium mall and glass elevators.

Another popular area is New Town, beginning on Broadway from Diversey Avenue (2800 North) to Belmont Avenue (3200 North). This area caters to the younger, hip set with a variety of art and poster shops, clothing and hand-made boutiques for the contemporary look, and smart shops for apartment and home decorating accessories. The Century Mall on Clark Street is a popular new seven-story shopping center in New Town.

Other favorite shopping centers in and around Chicago include Old Orchard, Edens Plaza, Harper Court, Oak Brook, Golf Mill, Yorktown, and Woodfield.

These shopping centers offer a wide variety of boutiques and department stores set in landscaped grounds with sparkling fountains, colorful flowerbeds, and sculpture.

Most of Chicago's great museums have fascinating shops offering reproductions from their collections as well as puzzles, toys, books, and other interesting items.

Art Works in Chicago Plazas

Visitors here will find both new and varied art forms designed by contemporary masters in public plazas throughout the Downtown area.

One need not be an art enthusiast to appreciate the beauty of Chicago's new plaza art by such famous contemporary artists as Alexander Calder and Marc Chagall.

Calder's "Flamingo" dominates the plaza at the Chicago Federal Center located at Adams and Dearborn Streets. The bright red sculpture stands 53 feet high and weights 50 tons. Calder also is the artist of a mobile in the lobby of the Sears Tower, the world's tallest building. The mobile, entitled "Universe," is 55 feet wide and 33 feet high and weights eight tons.

One of the most colorful additions to Chicago's outdoor modern art gallery is "The Four Seasons," a mosaic mural by Marc Chagall. The mural is located at the First National Bank Plaza, Monroe and Dearborn Streets. The 70-foot long mosaic is composed of 350 different shades and hues of mosaic material including glass, marble, stone, and granite.

No visit to Chicago would be complete without viewing the famous 50-foot high, 162-ton Picasso Sculpture, a Chicago landmark since 1967, located on the Richard J. Daley Plaza, Washington and Dearborn.

A "sound sculpture" has been installed in the plaza of the Standard Oil Building, 200 E. Randolph Street. Harry Bertoia, renowned American sculptor and furniture designer, has created the sculpture for the reflecting pool of the Standard Oil Building, fourth tallest in the world. The sculpture contains various sounding elements. Natural wind currents move the parts and determine the amount and intensity of sound.

The latest addition to Chicago's outdoor art is the Batcolumn. Designed by Claes Oldenburg, it stands 100 feet high and is constructed of 1,608 pieces of welded steel. The Batcolumn is at the Social Security Administration Building, 600 W. Madison Street.

All of these public art works are located within easy walking distance from one another in and near Chicago's Loop area.

Chicago Museums

Of the many attractions here, Chicago's museums and art galleries rank high on the list for visitors from everywhere.

The Adler Planetarium is devoted to astronomy and related sciences. Its unique double-feature program explores the universe from a new multi-media Universe Theater and from the Sky Theater. Exhibits at the Universe Theater include antique astronomy, engineering and navigation instruments, and scales that give your weight for the planets in our solar systems. Admission to the program in the Sky Theater is $2 for adults and $1 for children (6-17), free for senior citizens.

One of the world's great museums, the Field Museum of Natural History, contains more than 10 acres of exhibits enabling visitors to survey the history of the earth. Outstanding exhibits include premitive arts, cultures of the American Indian, jade, civilizations of China and Tibet, botanical displays, and life-like bird and mammal dioramas.

Admission charges are $3.50 for families, $1.50 for adults, 50¢ for children and 50¢ for students with ID's. On Friday, no addmission is charged.

Chicago is home of the John G. Shedd Aquarium, the world's largest aquarium. One hundred and ninety exhibit tanks contain more than 7,500 fish specimens. Admission is $1.50 for adults and 50¢ for children aged 6-17, children under 6 and senior citizens admitted free.

Chicago's most popular tourist attraction, the Museum of Science and Industry, contains 2,000 displays that explain the principles of science and show how they are applied in industry and everyday life. Visitors push buttons, turn cranks and lift levers to see, listen, and learn about science and technology. Exhibits include a working coal mine, a captured WW II German submarine, and a 16-foot high model of the human heart. Children and their parents are fascinated by the life of a circus performer presented in the Sears Cinema Circus dioramas. More than 3.5 million visitors tour the museum annually to trace the outstanding developments of science and industry from their invention to mass production. No admission is charged for most exhibits.

The Art Institute of Chicago is one of the world's foremost art museums. Its internationally-famous permanent collection is made up of painting, sculpture, prints and drawings, and includes some of the world's finest French Impressionist, Post-Impressionist, and Oriental art. To augment its collections, the Art Institute brings great works of art from all over the world to Chicago for special exhibitions. A discretionary admission is charged (suggested at $2. for adults, $1 for students and senior citizens).

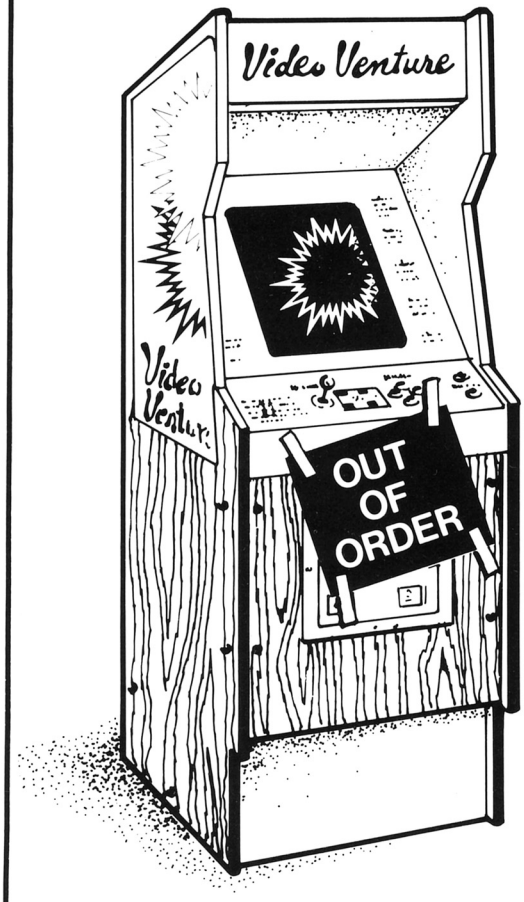
Lincoln Park Zoo—one of the oldest in the country—includes an outstanding collection of more than 2,600 mammals, birds, and reptiles from almost every part of the world. Zoo grounds include a new central mall area, a new Sea Lion Pool, and a new Great Ape House. One section includes the world's first man-made oasis for wild birds, an outdoor and indoor Children's Zoo, and a complete Farm-in-the-Zoo. Besides being the most visited zoo in America, it is the only major zoo in the country with no admission charge.

The Chicago Historical Society in Lincoln Park features an outstanding exhibit on the Great Chicago Fire and also is famous for its Abraham Lincoln collection. Though the institution exphasizes Chicago and Illinois history, its dramatic photos fascinate visitors from all over the country. Admission is $1 for adults and 50¢ for children (6-17), 25¢ for senior citizens. On Monday, no admission is charged.

Other outstanding museums in Chicago include the Museum of Contemporary Art, which features changing exhibits highlighting contemporary artists; the Chicago Academy of Sciences, emphasizing geological and ecological exhibits on the Chicago and Great Lakes Region; Glessner House, which contains a collection of Frank Lloyd Wright furniture and continuing architectural exhibits; and the University of Chicago's Oriental Institute, which displays one of the world's most distinguished collections of Near Eastern art and artifacts, from Mesopotamia to ancient Egypt.

Information on Chicago's museums or any aspect of tourism in Chicago can be obtained by contacting: Chicago Convention and Tourism Bureau, Inc., McCormick Place On The Lake, Chicago, 60616.

MACHINE JAMMED?



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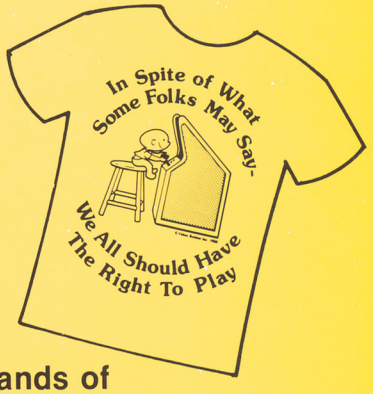

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COINMAN INTERVIEW:

Jack Mittel

One of the hazards of the publishing field is that your predictions stay with you. If you guess wrong, someone is bound to point it out to you. But if you're right, no one will admit it but rather say instead that your prediction was already common knowledge by them.

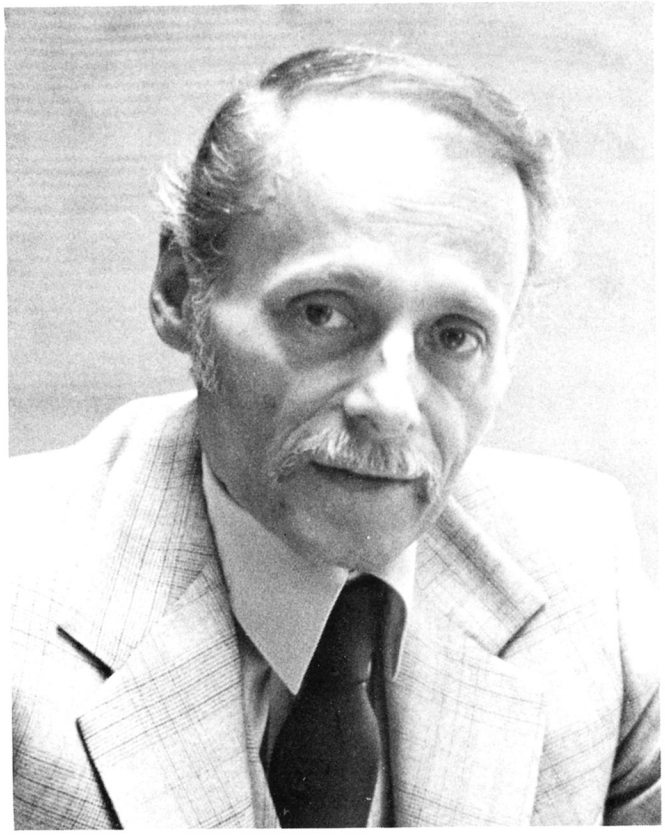
Either way, our Coinman this time, Jack Mittel, president of Taito America, has boldly stepped into this arena of industry prognostication. And his predictions, like last month's Play Meter, *will stay around to be referenced, and so we'll get a chance to check Jack's view of what will pass in the months ahead.*

A true industry veteran, Jack has been in the coin-op business all his life. Starting as a route man for Automatic Canteen in the late 1940s, he went into the distributing end of the business for a short time before moving on to Williams Manufacturing Company in 1959. After spending twenty years with Williams, Jack moved on to D. Gottlieb & Company for a short stint before the position as president of Taito America opened up for him. That was July 1, 1980.

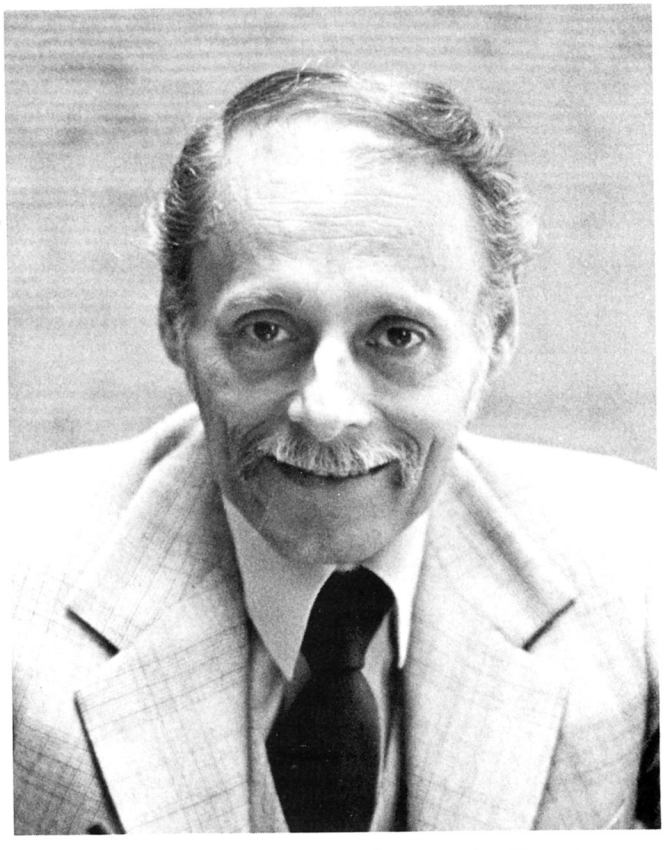
Since that time, caught up with the phenomenal success of video games, Taito America has enjoyed its most profitable days. And at this past AMOA Show, the company introduced its first in-house game, Qix, *a revolutionary game which many people see as breaking new ground in the video game field.*

But with the glut of games in the marketplace, Mittel focused his remarks mostly on an impending "shakeout" which he claims will eliminate or change the makeup of several manufacturing companies. He did not venture to name names, since obviously he wasn't privy to this internal knowledge; however, he offers his analysis of the market conditions and why he foresees troubles ahead for factories. It's an observation based on a volatile market that has got to turn up some losers very soon.

As for Jack's predictions, he will follow the same pattern as the predictions of us in the publishing field—only time will tell. If he's right, remember, you heard it from Jack. If he's wrong, Jack no doubt will hear from everyone else.



'Some of the companies as we know them today will either not be in existence or will be restructured in a different manner, shape, or form by the fall of '82. It is inevitable.'



'I will not inventory new games because I will not invest in material, labor, and overhead...out of cash flow for games that may be in inventory. So everything we make has already been pre-sold.'

PLAY METER: From a manufacturer's point of view, how would you assess the market?
MITTEL: This business has always had its peaks and valleys, and right now we're in a definite valley. And we haven't hit bottom yet. In fact, I don't anticipate we'll hit bottom until maybe in the fall. By the fall, though, I think you're going to have a tremendous shakeout. The companies that are undercapitalized are running the risk of not making it. If they happen to guess wrong on one game coming from offshore, they could be in real trouble.

The reason for this shakeout will be that a lot of these companies have never been through a valley before. So if they don't guess right and they're at the mercy of what I call "O.P.," that is, other people's product, and they're not watching their indirect costs, things are going to get away from them awfully quick. But let me assure you of one thing, it hasn't gotten away from us.

PLAY METER: What do you mean by this "shakeout"?
MITTEL: Some of the companies as we know them today will either not be in existence or will be restructured in a different manner, shape, or form by the fall of '82. It's inevitable. I can't tell you which ones, but I'm using past history as a guide.

PLAY METER: So, after the phenomenal year last year where so many games were sold, you see a slowdown in 1982?
MITTEL: This will be a year of consolidation. 1982 will slow down. There's no question about it.

'Part of the problem you have in the marketplace today was created by excessive inventories at the factory level.'

It's not so much because of the economic conditions on the outside, though that is a contributing factor, as it is a congestion of units that are available in the marketplace at really distressed prices. Until the market can absorb and get rid of some of this constipation, all the factories are going to suffer, unless, that is, you have a game that—on a scale of one to ten—is a ten. In that case, you can always move. But the days where you can move a five, or six, or seven are over.

This has been the most volatile market I've seen in maybe fifteen years. This market will definitely separate the men from the boys. It always has in the past, and it's going to do it again now. It's the old story that the strong survive and the weak don't. And I can't say it's all bad because it shakes out people who are weakest from a management point of view and who haven't done their homework and their jobs properly. It's a very competitive business, as you well know, and you have to watch your P's and Q's because the gravy days are over. It's a business now, and it's very difficult and very tough.

PLAY METER: From the way you're talking, it sounds as if Taito, you're saying, has been able to avoid this impending "shakeout." Why is that?
MITTEL: Prior to my taking over here, Taito America's gross revenues in the area of sales for the first six months of 1980 was a little over $1 million. And the company's profitability was, shall we say, negligible.

Then for the last six months of 1980 when I took the position as president of Taito America July 1, 1980—we did sales in excess of $10 million and our pre-tax profit was in excess of $1.5 million.

And in 1981, we did a sales volume in excess of $45 million, and our profitability was on a percentage basis what it was in the last six months of 1980.

PLAY METER: Well, with this impending shakeout on the horizon for manufacturers, as you insist, what changes did you institute at Taito America to solidify the company?
MITTEL: Obviously, the first thing I had to do was completely revamp the distribution organization from A to Z, not only domestically but also internationally. I have 25 years experience of working with distributors, and I knew who I could relate to and who could relate to me. And I knew who was strong and who was weak. And I knew who could move out product, assuming my product was competitive, and I knew who could pay, assuming they sold what they bought. I went on their track records, and obviously these distributors have done the job for me because the results are in.

Then we had to inject our own talent, and that came with me. I was very fortunate to bring with me people who believed we could accomplish our goals here at Taito. You see, I'm a firm believer that a company does not make the people but that the people make the company. And by bringing in qualified people from the industry, we were able to short-circuit a six- or twelve-month wait.

PLAY METER: So your philosophy is to go with known quantities, as opposed to bringing in new talent from outside the industry.
MITTEL: That's right. Also, I firmly believe that, as a manufacturer, you cannot be wholly dependent on new games coming from offshore. So what I did was put in a tremendous amount of money in engineering and research and development so that we could develop a new electronic American-developed system with all-American parts and American creativity.

As a result, we have reversed the procedure and have re-licensed our first such game, *Qix*, to the Far East, instead of having the Far East doing it to us. I have to tell you this could not have happened without the complete cooperation of Taito Corp., which happens to be our parent company. What they did was to allow me to do what I felt had to be done without any specific problems.

And what we accomplished, as a result of that, is the best of both worlds, here at Taito America, the games we develop flow the other way to the parent company under royalty, and the games they develop flow back to us. So, based on this arrangement, I'm not at the mercy of offshore people as are other companies. And I like it this way because if you're not a master of your own destiny, you're going to have real problems. And the problem you have today is because you have such a multitude of companies looking for product, many of the offshore companies are making available to American companies different models, and they're asking the American factories to commit big numbers to the games without

testing the games. And I won't do it.

Now, if other companies want to take that exposure, that's up to their management, but I will not take a game under royalty without having the opportunity to test it because the investment is too great. I just don't have to do it.

Between what Taito Corp. can give us and what we can give Taito Corp., I'm not as dependent on offshore people as are some companies, and that works out very well for us.

PLAY METER: I understand that Taito America is now operating a small chain of arcades. Is that true?
MITTEL: What we've been able to accomplish is we've been able to set up several, what I call, retail arcade outlets which are owned by us, and this allows us to test our games so that nobody else knows what we're doing, except us. I've also established a street route in the Dominican Republic that gives us a pretty wide test of our own equipment.

PLAY METER: You said a while ago that we can expect a falling out among the manufacturers by the fall. Can we expect to see a falling out as far as the number of machines on location?
MITTEL: Sure. You've got to. In some areas the games are non-compensatory. The machines don't earn enough money because there are too many in a given area. Those machines are going to have to come off location unless they can be placed in other locations that can absorb them. But during this period, new equipment, which would normally go to the other locations, will not until all this equipment is absorbed.

PLAY METER: Well, would you say we're going to see a falling out among the operators as well?
MITTEL: If they don't run their businesses right, you sure as hell will. You can't just stick a game anywhere. It costs a lot of money; so unless you're pretty much convinced it's going to earn money and pay for itself, it's going to be rough because the operators have got the same problems the manufacturers have. The interest rates are so high.

PLAY METER: We hear tales about companies, some of which are even bigger than Taito America which are having problems of one kind or another being caught up in this trap of over-producing for a nearly saturated market. Why has Taito America been able to avoid this trap?
MITTEL: Because we don't over-produce. I won't build anything unless I've got it pre-sold. With interest rates as high as they are, I won't tie up our cash flow to create dead inventory that might have to be sold at a discount price. You see, part of the problem you have in the marketplace today was created by excessive inventories at the factory level.

PLAY METER: Yes, but given that situation, what is a factory to do when it gears up to produce at a high rate because it has a hit game, then the run of that game eventually ends? After being geared up to supply at that level, how can a factory continue without endangering itself?
MITTEL: You've got to react to that, and that's what separates the men from the boys. If you don't feel your next game is not as good as your prior game, you don't make it. And if that means you have to furlough people from your facility, you do it and very fast, very quick, or

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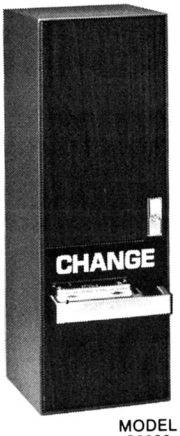

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else your costs will run away from you.

The manufacturer has got to realize that just because he ate steak yesterday, it doesn't mean he's going to eat steak today. You may have a filet today, but then again you may have hamburger. And you've got to react to this. You've got to be able to react immediately. That's one of the reasons I need a daily P&L statement; so I know what my costs are.

You see, I look at things a little differently from most people. I don't produce anything unless it's sold. I will not inventory new games because I will not invest in material, labor, and overhead that have to be paid for out of cash flow for games that may be in inventory. So everything we make has already been pre-sold, or I won't make it. And that gives me a pretty good handle on my costs.

PLAY METER: So, by pre-selling everything, a manufacturer can eliminate his risk and also help reduce the glut in the marketplace?

MITTEL: All I can say is when I took over here at Taito, I developed this daily P&L, and it's been very effective and efficient for us. It allows me to spot almost every day how many hours it takes us to build a game, and whether any specific factor is out of line. And I need to have this information daily because if I wait a whole month, there's nothing I can do about it. But if I get it the next day, I can step in and do something about it almost immediately. If you don't work on that kind of schedule, something could go out of kilter on, say the 7th or 8th of the month, and you wouldn't find out about it until the end of the month, and by then the whole month is shot.

PLAY METER: Are we seeing a new breed of people coming into the business at the manufacturing level?

MITTEL: There are new people trying to get in, but not as many here as outside the country, and the reason is here we're protected by the copyright law. And, outside the continental United States, you're not. Outside the states, if you can copy a game in a garage, you're in business, you can sell PCBs. Now what we've done here, as have other major manufacturers, is we've had to add what I would have never dreamed we would have had to do; we've had to add a legal staff to the company, to protect our rights relative to filing lawsuits on copyright infringements.

Now we've won the first two cases in Germany already. We have one more pending in Germany. We have a suit pending in France. We have several suits in Italy. We've got a couple of suits in England. We've got a suit in Australia. All of it because we want to protect our copyrights. I don't care what it's going to cost us, I want to protect it. And I've hired an in-house attorney with an entire staff, so we will protect our rights just the same as the other large manufacturers. This has eliminated a lot of these smaller manufacturers at this point in time. They won't come in because they don't have the funds to go out and buy a game from offshore, and they wouldn't know where to go and how to go about getting in-house talent to make them in-house.

PLAY METER: The so-called "pirate" companies, on the other hand, argue that the copyright laws stiffle the chance for any garage-type operation from blossoming into a major manufacturer one day. What's your response to that?

MITTEL: That's garbage. We've got the same protection—and we're entitled to the same protection—as the movie companies. All we're selling is entertainment

for a quarter. We're competing with the movies, with records. It's the same thing. We're offering entertainment.

PLAY METER: Do you see the manufacturer and operator as natural enemies on this question of video game copyrights?
MITTEL: No, not really. All we've done as manufacturers is used the protection quaranteed us under the upgraded copyright law. You've probably read in the newspaper about the pirating of movies from Hollywood and the pirating of records, and so on. Well, our industry is the same as the movie industry. It's entertainment. And we're just like them, we're not going to pump in large sums unless it's protected, because to get a game off the drawing board, it's a $300,000 to $500,000 investment.

'There are new people trying to get in (production), though not as many as outside the country, and the reason is that we're protected by the U.S. copyright law.'

PLAY METER: What is your response to the operator complaint as to why the cost of the game won't come down after a certain production number is reached which would offset the R&D costs involved with the game?
MITTEL: You've got to keep in mind that for every game we make we junk eight or ten games. So you've got to consider that if I have to junk seven or eight games, I've got $2 to $2.5 million out there that has gone down the drain in R&D until I can get a game I can build. And I'm sure as hell going to protect my copyright, just as the movie people are doing.

So if our R&D costs are paid off on one hit game, that's fine, but what about the eight that were never made that the operators never saw? We still had to develop them and build them and test them. And we had people that had to be paid and equipment that had to be bought.

Actually, I would guess our average is about the national average—that is, that we make one out of ten for the marketplace. And then, going in, you have no guarantees your game's going to be a winner. That's why we test them first. When you see one of our games out there, it means we have an investment that can be anywhere from $2.5 to $5 million, taking into account the eight or nine I junked before I got that game. Now, I have to recoup all that, not just for the one game, or I'll be out of business.

You've got to remember, from an operator's point of view, if the factories don't develop new games, they have nothing to sell their locations on over a period of time. So their life's blood is our new equipment. And our job is to give them a machine that makes the most money possible and, of course, gives the least amount of trouble.

PLAY METER: You make this argument, that only one of every ten games makes it to the marketplace, wouldn't this be an argument for going the licensing route, instead of doing your own in-house development instead?
MITTEL: No, because the licensors want certain commitments. And some of the commitments they're asking for are just too much. It'll cost you God knows how much to buy the license, and then you're still not sure it's going to make money. Besides, they've got built-in R&D paying for several of their undeveloped games as well. The only difference is they're trying to get their money back without a test, and don't forget if you get a game from offshore, you may get it for the North American continent and Central America, but that's all. But if you develop the game, the world's your plum, and the situation is reversed.

PLAY METER: You said a moment ago that operators and manufacturers are not natural enemies on the video game copyrights. Would you say that all this copyright litigation is in the best interests of the buyer, the operator?
MITTEL: Sure, it has to be. Otherwise, what he's going to get is a lot of equipment. You run the risk of some of the American manufacturers not making it, as I mentioned before. And if the American manufacturers are not solvent and they go out of business, the operator is going to be the one who is going to be ultimately affected because he isn't going to get new equipment, because the offshore stuff isn't going to last forever. And the operator has got to get a new injection of new equipment. And if you don't have any manufacturers on-shore, you're dead.

PLAY METER: What do you have to say about the operator complaints that they don't know which games are copies anymore?
MITTEL: The operators know very well what games are copies. When the copiers come in, they will sell it directly as a copy. Otherwise, the operator wouldn't buy it. Operators are not going to buy a cat in the bag. No operator is dumb enough. He's got a business to protect. He's not going to buy anything unless he's convinced it's going to earn money. When they sell these games, they sell them as copies of *Qix* or *Pac-Man* or *Defender* or whatever. And the only reason the copiers are copying the number ten games is the operators will only buy copies if it's a copy of a number ten game. And that's because the number ten games are the only games that are making it.

PLAY METER: We captured the youth market with video space games, then the adult male market. Then, with Pac-Man, *we captured a sizeable following among female players. Now we see your game,* Qix. *How does this abstract game fit in? What market does it appear to appeal to?*
MITTEL: *Qix* is an area capture game, and we've found it's been immensely successful with those players who are drivers license age and on up. Some kids like it, but the game appeals to those of drivers license age on up.

PLAY METER: Why is that?
MITTEL: I wish I could tell you because, if I could, you'd have nothing but *Qix* games coming off.

PLAY METER: Will we be seeing more of these area capture-type games like Qix *from Taito in the future?*
MITTEL: I guarantee you. We're working on them now. It's a new area. I guarantee you we'll have others coming behind it. •

Computerized Coin-Count Reconciliation

by Charles C. Ross and H. Richard Priesmeyer

So you have been considering buying a computer? But, you have just been waiting for there to be one bit of information to get you off the fence, so to speak, and make the decision. Well, this article is about a computer program that you can use. Even if you use your computer for nothing else, we feel the enclosed program will justify the cost of a computer.

A big problem faced by all operators is cash control. One way to build controls around cash is to keep records of counter numbers on each and every machine. The procedure of recording counter numbers is quite common among operators but actually doing anything useful with the counter numbers once collected is quite a time-consuming task within itself. So most operators have money collectors record counter numbers and then they do an analysis of counter numbers if something appears to be incorrect, or if they have an employee that they don't quite trust.

The following Coin-Count Reconciliation Program, designed by Innovative Management Consultants, is to make the job of verifying collection report counter numbers an easy task that can be performed quickly and easily after each collection.

This computer program is in the Basic Computer Language and is designed to run on the TRS-80 Radio Shack series of computers.

The program

Once the program has been input into the computer and is run, the first thing to appear on the screen of the computer is the main menu. The main menu is shown in Figure 1.

(1) Input Data From Disk

The Input Data From Disk function is designed to bring data into the computer once you have been using the coin-count reconciliation program. This function is one of the many features of the program that makes this computer program far superior to doing coin-count reconciliation by hand methods. Once you have established a file, the computerized file knows the machine number, the machine name, and the current counter number or numbers for each machine. A file can consist

FIGURE 1
MAIN MENU

```
IMC COIN-COUNT RECONCILIATION
PROGRAM                          FILE:    # MACHINES: 1
******************************************************

   (1) INPUT DATA FROM DISK
   (2) PRINT DATA TO DISK
   (3) ADD MACHINES
   (4) OMIT MACHINES
   (5) CLEAR REVENUES
   (6) ENTER REVENUES
   (7) CORRECT COUNTERS
   (8) PRINT REPORTS
   (9) TERMINATE PROGRAM
```

FIGURE 2
ADD MACHINE FUNCTION

```
IMC COIN-COUNT RECONCILIATION
PROGRAM                          FILE:    # MACHINES: Ø
******************************************************

LAST MACHINE NUMBER Ø
REMAINING CAPACITY  8Ø2

MACHINE NUMBER (Ø=MENU):? 36
MACHINE NAME            ? ROAD HOG
NUMBER OF COUNTERS      ? 2
READING OF COUNTER #1   ? 1Ø365
READING OF COUNTER #2   ? 13840
```

FIGURE 3
A MACHINE THAT HAS BEEN ENTERED

```
IMC COIN-COUNT RECONCILIATION
PROGRAM                          FILE:    # MACHINES: 1
******************************************************

MACHINE NUMBER (Ø=MENU)? 36
MACHINE NAME             ROAD HOG
REVENUE COLLECTED      $? 225.ØØ
COUNTER #1              ? 1Ø665
COUNTER #2              ? 14427
AMOUNT OVER/SHORT IS             $ 3.25
(PRESS ENTER)? .
```

FIGURE 4
SUB-MENU FOR PRINT REPORTS

```
IMC COIN-COUNT RECONCILIATION
PROGRAM                          FILE:    # MACHINES: 1
******************************************************

PREPARE PRINTER
SPECIFY SELECTION

   (1) ALL MACHINES
   (2) ONLY MACHINES WITH REVENUES
   (3) ONLY MACHINES OVER/SHORT

MACHINES WITH VARIANCE +/- $?
DO YOU WANT TO EXCLUDE REVENUES (Y/N)?
```

of up to 800 machines. For operators with more than 800 machines the program is still useful; it simply means that you will need to set up more than one file to handle all the machines in your company.

(2) Print Data to Disk

The Print Data to Disk command on the main menu is another feature which makes this computer program for coin-count reconciliation superior to performing the analysis by hand. Once your file of all the machines has been updated with the current revenues and current counter numbers, the file can be saved so that next time all that must be done is (1) Input the Data From Disk and you are ready to do another coin-count reconciliation.

(3) Add Machines

Figure 2 shows what is displayed on the screen of the computer when you go into the Add Machines function. The first thing displayed is the last machine number that you entered. This is convenient information so that when you are entering a long list of machines and you get interrupted it is not hard to determine what was the last machine entered into the computer. The next thing displayed is the remaining machine capacity. The computer will hold up to 800 machines at one time and you are given a countdown of the remaining capacity after you input each machine.

You are allowed to enter a machine number for each machine, which can be a company generated number or the manufacturer's serial number. Then you enter the machine name. The answer to the question of how many counters are on the machine will depend on the make and model of the machine. Some machines have two counters, one for each coin mechanism, and some machines have one counter for both mechanisms. The program is designed to handle one or two counters on a machine.

The Add Machine function will be used only when you initial a file, or in other words, when you do your initial set-up on the computer. The only other time you will use function 3 for Add Machines is when you purchase a new machine which must be added to the file. Once the files have been set-up with all the machine information, you should print the information to the disk.

(4) Omit Machines

The Omit Machine function is to be used anytime you wish to delete a machine from the file. The most common reason for omitting a machine from the file is because the machine has been disposed. Machines are omitted simply by inputing the machine number.

(5) Clear Revenues

The Clear Revenues function is to clear all the revenues out of the file and get ready for the new revenues from the present collection report. When you enter the Clear Revenues function (5) you enter a short submenu which gives you the option to abort the function or to go ahead and clear the revenues out. The abort option is just a small safeguard so that you do not hit function (5) by mistake and lose revenues data before you desire to do so.

(6) Enter Revenues

The Enter Revenues function is what will be done on a routine basis when you want to do a coin-reconciliation. Figure 3 shows how the computer screen will appear after you have entered a machine number. When you enter the machine number, the computer will come back with the machine name and ask you to input the revenues collected in dollars. Then you will be asked to input the counter number, or numbers, and the machine will print on the screen the amount over or short.

In other words, the computer will compare the

```
100 '        IMC COIN-COUNT RECONCILIATION PROGRAM
110 '           * INNOVATIVE MANAGEMENT CONSULTANTS
120 '           * 2040 LISA LANE
130 '           * FAYETTEVILLE, AR 72701
140 '           * TELEPHONE (501) 521-0868
150 '                NOT TO BE SOLD
160 '
170 CLS:CLEAR8000
180 Q=802: '<--MACHINE CAPACITY
190 C=0:IJ=0
200 R$="NUMBER  MACHINE NAME  COUNTER 1  COUNTER 2  REVENUE  O
VER/SHORT"
210 Q$="######  %          %    #####      #####    $###.##  $
+###.##"
220 T$="TOTALS                                          $$####.## $$
####.##"
230 DIM N(Q),N$(Q),S(Q),C1(Q),C2(Q),R(Q),V(Q)
240 GOSUB810
250 PRINT"   (1) INPUT DATA FROM DISK"
260 PRINT"   (2) PRINT DATA TO DISK"
270 PRINT"   (3) ADD MACHINES"
280 PRINT"   (4) OMIT MACHINES"
290 PRINT"   (5) CLEAR REVENUES"
300 PRINT"   (6) ENTER REVENUES"
310 PRINT"   (7) CORRECT COUNTERS"
320 PRINT"   (8) PRINT REPORTS"
330 PRINT"   (9) TERMINATE PROGRAM"
340 SX$=INKEY$:IFSX$=""THENGOTO340
350 SX=VAL(SX$):IFSX>9THENGOTO240
360 ONSXGOTO370,430,490,830,1160,600,900,990,800
370 PRINT:INPUT"   WHAT FILE NAME";F$:C=0
380 OPEN"I",1,F$
390 IF EOF(1)THEN420
400 C=C+1:INPUT#1,N(C),N$(C),S(C),C1(C),C2(C),R(C),V(C)
410 GOTO390
420 CLOSE:GOTO240
430 PRINT:PRINT"RESIDENT FILE NAME IS ";F$
440 INPUT"SPECIFY FILE TO PRINT TO ";F1$
450 OPEN"O",1,F1$
460 FORN=1TOC:IFN$(N)="OMIT"GOTO480
470 PRINT#1,N(N);",";N$(N);",";S(N);",";C1(N);",";C2(N);",";R(
N);",";V(N)
480 NEXTN:CLOSE:GOTO240
490 GOSUB810
500 IFC>0THENPRINT"LAST MACHINE NUMBER";N(C):PRINT
510 INPUT"MACHINE NUMBER (0=MENU):";N(C+1)
520 IFN(C+1)=0THENGOTO240
530 C2(C+1)=0:R(C+1)=0
540 INPUT"MACHINE NAME              ";N$(C+1)
550 INPUT"NUMBER OF COUNTERS        ";S(C+1)
560 INPUT"READING OF COUNTER #1     ";C1(C+1)
570 IFS(C+1)=1GOTO590
580 INPUT"READING OF COUNTER #2     ";C2(C+1)
590 C=C+1:GOTO490
600 GOSUB810
610 INPUT"MACHINE NUMBER (0=MENU)";Z1
620 IFZ1=0GOTO240
630 FORN=1TOC:IFZ1=N(N)THENGOTO650
640 NEXTN:GOTO610
650 PRINT"MACHINE NAME              ";N$(N)
660 INPUT"REVENUE COLLECTED       $";R(N)
670 INPUT"COUNTER #1                ";Z2
680 IFZ2>=C1(N)THENGOTO700
690 T1=Z2+(100000-C1(N)):GOTO710
700 T1=Z2-C1(N)
710 R1=T1*.25:C1(N)=Z2:R2=0
720 IFS(N)<>2THENGOTO780
730 INPUT"COUNTER #2                ";Z3
740 IFZ3>=C2(N)THENGOTO760
750 T2=Z3+(100000-C2(N)):GOTO770
760 T2=Z3-C2(N)
770 R2=T2*.25:C2(N)=Z3
780 V(N)=R(N)-(R1+R2):PRINT"AMOUNT OVER/SHORT IS             $"
;V(N)
790 INPUT"(PRESS ENTER)";Z$:GOTO600
800 GOSUB810  :PRINT"PROGRAM TERMINATED":RUN"MENU"
810 CLS:PRINT"IMC COIN-COUNT RECONCILIATION":PRINT"PROGRAM
                  FILE: ";F$;"   # MACHINES:";C
820 FORN=1TO64:PRINT"*";:NEXTN:PRINT:RETURN
830 GOSUB810  :PRINT"SPECIFY MACHINE":INPUT"NUMBER TO OMIT";Z1
840 FORN=1TOC:IFN(N)<>Z1GOTO890
850 PRINT"MACHINE NAME      ";N$(N)
860 INPUT"0=OMIT  1=SAVE    ";Z2
870 IFZ2=1GOTO240
880 N$(N)="OMIT":N(N)=0:GOTO240
890 NEXTN:GOTO240
900 GOSUB810  :PRINT"SPECIFY MACHINE NUMBER":INPUT"TO CORRECT"
;Z1
910 FORN=1TOC:IFN(N)<>Z1GOTO980
920 PRINT"MACHINE NAME             ";N$(N)
930 PRINT"COUNTER #1 READING    :";C1(N)
940 INPUT"ENTER CORRECT READING :";C1(N)
950 IFS(N)<>2GOTO240
960 PRINT"COUNTER #2 READING    :";C2(N)
970 INPUT"ENTER CORRECT READING :";C2(N):GOTO240
980 NEXTN:GOTO240
990 GOSUB810  :PRINT"PREPARE PRINTER":TV=0:TR=0
1000 PRINT"SPECIFY SELECTION":PRINT:PRINT"   (1) ALL MACHINES"
1010 PRINT"   (2) ONLY MACHINES WITH REVENUES":PRINT"   (3) ON
LY MACHINES OVER/SHORT":PRINT
1020 SX$=INKEY$:IFSX$=""GOTO1020
1030 SX=VAL(SX$):IFSX>3THENGOTO1020
1032 IFSX=3THENINPUT"MACHINES WITH VARIANCE +/- $";W
1033 IFW<0THENGOTO1032
1034 INPUT"DO YOU WANT TO EXCLUDE REVENUES (Y/N)";Q1$
1040 CLS:LPRINT:LPRINT:LPRINT"IMC COIN-COUNT RECONCILIATION"
1050 LPRINT"REPORT FOR FILE: ";F$
1060 GOSUB1150 :LPRINTR$
1070 FORN=1TOC
1080 IFN$(N)="OMIT"THENGOTO1130
1090 IFSX=2ANDR(N)=0THENGOTO1130
1100 IFSX=3ANDV(N)>=0ANDV(N)<WTHENGOTO1130
1105 IFSX=3ANDV(N)<=0ANDV(N)>(W*-1)THENGOTO1130
1110 IFQ1$="N"THENLPRINT USING Q$;N(N),N$(N),C1(N),C2(N),R(N),
V(N)
1112 IFQ1$<>"N"THENLPRINT USING Q$;N(N),N$(N),C1(N),C2(N),IJ,V
(N)
1120 TV=TV+V(N):TR=TR+R(N)
1130 NEXTN
1140 GOSUB1150 :LPRINTUSINGT$;TR,TV:GOSUB1150 :GOTO240
1150 FORN1=1TO64:LPRINT"-";:NEXTN1:LPRINT:RETURN
1160 GOSUB810  :PRINT"ALL REVENUES WILL CLEAR":INPUT"0=CLEAR
1=SAVE";Z2
1170 IFZ2<>0GOTO240
1180 FORN=1TOC:R(N)=0:NEXTN:GOTO240
```

Counter numbers and revenue amounts which do not match-up, within your toleration of variance, reveal the machines that need your attention for their being 'over' or 'short.'

counter number of this collection to the counter number of the last collection. The difference should be the number of quarters that passed through the coin slot. Then the computer will convert the difference in the counter numbers to dollars and compare it to the revenues collected. In theory the counters and the money collected should be the same. (Later, we will discuss an analysis of the report.)

(7) Correct Counters

The Correct Counter function on the main menu is to be used anytime that you need to change a counter number. There are normally two times that you will need to use the Correct Counter routine. First there will be times that you input a counter number incorrectly. Since counter numbers are normally five to six digits, there is a good possibility that a counter number can be entered incorrectly. The other time you will want to use the Correct Counter function is when a machine has two counters and you entered the counter numbers in reverse order. Once the order of the counter numbers has been established, that order must be followed for the future input of the counter numbers to get an accurate coin-count reconciliation.

(8) Print Report

When 8 is pressed for the Print Report function, a sub-menu comes back on the computer screen as shown in Figure 4. You are given a brief reminder to prepare the printer and then you have a choice of three reports you can print. (If you have no printer, you can still use the program as amounts short and over are displayed on the video screen. See Enter Revenues.)

On the sub-menu you can print a report for all machines in the file. In other words, this function will give you a report of the machines whether or not you input revenues for all the machines.

After you have made a selection on the print selection sub-menu, you are asked the question "Do you want to exclude revenues? (Y/N)." If on your printed report you would like the revenues of each machine printed, you should answer the question Y, not yes but simply *Y*. Then the revenues will be printed. If you answer the question N, then the revenues will not be printed.

Why would you not want the revenues printed? Well, there may be a situation where you would want a technician to repair a counter that is not working properly and he has no business seeing the collections of each and every machine. The revenue exclusion is to be used when you desire to give the report to anyone whom you desire to see the shortages and overages of the counter

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Guided by the PAC, Play Analysis Computer voice, you are ready to plan your Vector game attack. The ball is your Vector energy beam and the Vectorscan ramp is the goal.

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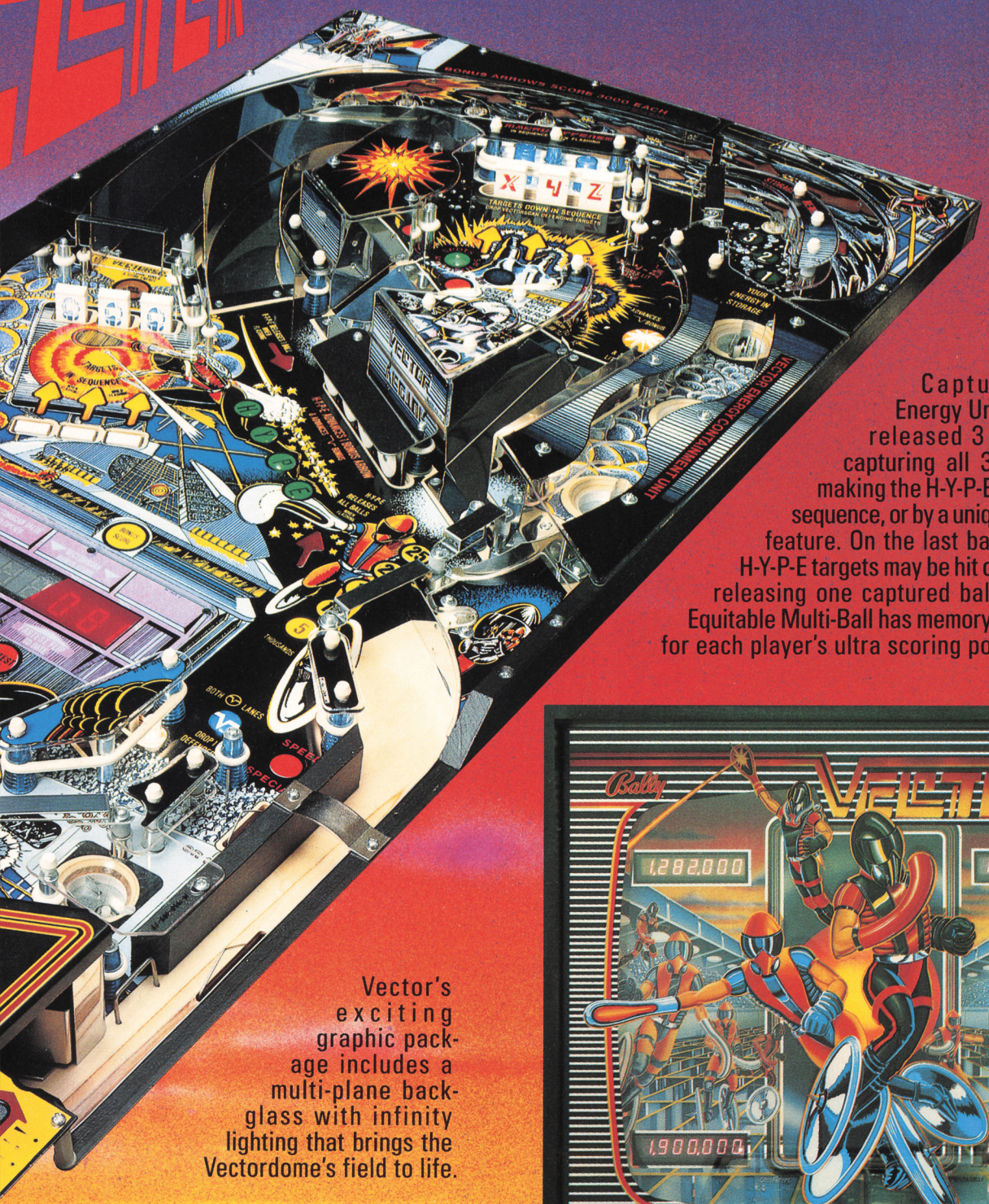
To gain entry to the Vectorscan ramp, it is necessary to drop the Defender drop targets that guard the ramp. Shooting Defenders 1-3 in sequence qualifies the top saucers for up to 3 captured balls, or Vector energy units. When Defenders 1-3 are knocked down out of sequence, Defenders 4-6 must also be hit to qualify top saucers for captured balls.

Hitting the upper level X-Y-Z drop targets in sequence will drop Vectorscan Defender targets, one at a time, by remote control.

Vector's bottom playfield sports 2 new bottom saucers for last chance Save-A-Ball to maximize your Vector game play.

Four flippers provide maximum ball control for multiple skill shots.

Bally's Game of the Future



Captured ball Energy Units can be released 3 ways: By capturing all 3 balls, by making the H-Y-P-E targets in sequence, or by a unique last ball feature. On the last ball only the H-Y-P-E targets may be hit out of order, releasing one captured ball. Vector's Equitable Multi-Ball has memory and recall for each player's ultra scoring possibilities.

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numbers but do not desire for him to see the revenues.

The second selection of the submenu will print a report of only machines with revenues. This report is useful because if you cleared out the revenues in the file before you started inputing the most recent collections of the machine, this report will be only for the machines that had a revenue. So if you have a file consisting of 250 machines and your collectors only collected from 50 of those machines, you can still get a meaningful report for the machines for which you have a revenue number.

Selection 3 is to print a report for only machines which are over or short. This report is good if you do not care to see all the machines but are only interested in the machines which are not "on the numbers" so to speak. This will be your list of suspect machines.

If you enter selection 3, then the computer will ask you "Machines With a Variance +/-$." In other words you will find that counter numbers may vary as much as $1 under normal operating conditions. This variance selection will allow you to exclude those random errors by counters and service testing and other normal occurrences which will cause counter numbers to be off. You have the flexibility to input any variance you desire. Remember the larger the variance you choose to ignore, the fewer machines the computer will print.

Analysis of the report

Counter numbers and revenue numbers which do not match-up, given your variance amount, are the ones that need your attention. There are several reasons that a machine is over or short.

1. A machine's counters and revenues may not match-up because of employee theft. The main purpose for keeping track of counter numbers is to detect employee theft and the IMC Coin-Count Reconciliation is a foolproof way to detect employee "skimming."

2. Counters can also be off because the counter is not working correctly. In the initial test of this computer program, a surprising number of counters did not work properly; those were always the mechanical counters and not counters held in the memory of the machines. The most common problem was a counter that was simply stuck and did not record any coins that passed through the coin slot.

We also found problems in some of the games which have batteries to hold information in the RAM of the machines. The main cause of the variance in these counters was determined to be bad batteries.

3. Another reason we found for coin-counters and revenues not matching-up was that the person collecting the counter numbers was making errors in the recording of the counter numbers. Impress the importance of accurate counter numbers upon collectors!

4. A common problem with machines that were off by $1 or less was found to be that the coins were hitting the top of the coin box and being deflected into the bottom. Also, unrecorded tests of the machine cause counters to be off.

5. Then there are the odd-ball situations where the counter is short or over by a tremendous amount. Counters off by several thousand dollars were normally just recorded incorrectly or the counters were reversed when input into the computer. In other words, when a machine has two counters, the counter must always be input into the computer in the same order so that the computer can keep track of how many coins went into each coin slot. A quick check of the counters from the last collection report will indicate if the counters were recorded in the correct order.

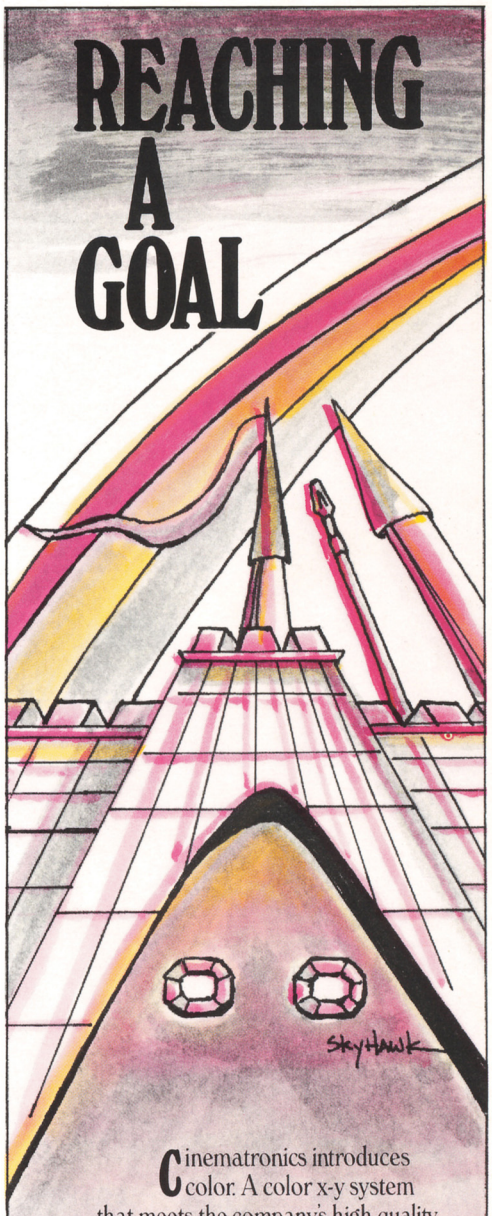
(9) Terminate Program

The terminate program function will simply end the program.

Conclusion

If you have been looking for a reason to buy a computer, you see it accompanying the top of this article —the actual listing of the IMC Coin-Count Reconciliation Computer Program. The program is intended as a gift to all amusement operators from Innovative Management Consultants. If you have been considering the purchase of a computer, here is the program which should help you make the decision to computerize the other half of your amusement business. If used properly this computer program, we feel, is a real asset to your company and can justify the cost of a computer.

Innovative Management Consultants will be displaying the computerized Coin-Count Reconciliation program at the 1982 Amusement Operators Expo in Chicago. All operators are invited for a demonstration and a free copy of the program listing.



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P.R. PROBLEM / P.R. SOLUTION

The psychology of cuing players to winning tactics

by Mike Bucki

You have a choice of letting a player walk away from a new game, feeling it's too difficult—or you can observe him and make suggestions on features available with the machine...

Most of the time this column will address issues in a Q & A format, using your questions about public relations problems you encounter along with my suggested answers, solutions that are hopefully more practical than theoretical. But every now and then someone in the industry comes up with a good idea which not only deserves applause but also some discussion.

That's why the kudos this time go to Sega/Gremlin for their "Player Tip" cards which, I believe, can be a very useful *positive* force in public relations.

Discovery, figuring out how to advance to the next level, is certainly part of the fun of the best video games. How do I get the frog in the upper left corner "home" in *Frogger*? What's the best method of defeating the killer satellite that makes *Asteroids Deluxe* so difficult? Should I attack the side or middle columns of the advancing Space Invaders or Gorfian Robots? Answering these questions is part of the fun.

But as the games become more difficult, complicated, and challenging, the answers to those questions become harder and harder to glean from the machine. Occasionally there's a hint or two within the instructions—either in print on the side panel or displayed on the screen, and sometimes both—but instructions are often ignored.

Most players, even when taking on a new game, by-pass the instructions and watch another player before diving into the fray. Later, if they've found something new they like, they *may* read the instructions. More often they look to another player, perhaps one who has shown some expertise. If there isn't one around, that's the time for you or one of your employees to seize the opportunity for greater profit.

After observing an obvious beginner from a slight distance (don't stand over his shoulder), tactfully point out vital information he may have overlooked while ignoring the instructions. With *Defender*, for example, the printed instructions along one side panel are so dark as to be almost unnoticeable. Fortunately the display mode translates the printed instructions into graphic action but it's still easy to miss the fact that rescuing a humanoid nets 500 points, and returning him to earth gains another 500.

Another example is Cinematronics' *Solar Quest*. [See "*Viewpoint on Video*," April 1.—ed.] Only the display mode tells the player about picking up enemy survivors for bonus points and—if you pick up 25 survivors—an extra ship. It's an easily overlooked instruction that can greatly enhance the play of the game...when it's known. And that's the point; game play is more enjoyable when you as a player know all the basic strategies that can be employed. As an operator, it's your responsibility to make sure the player knows how much fun the game can be.

What I'm saying is you have a choice. You can let the player walk away, dissatisfied, feeling this "new" game is too difficult, or you can observe him for several minutes to make sure he's using all that's available, and pointing out, if necessary.

When offering suggestions, the approach is all-important. With youngsters I believe a very simple question can be the best conversation starter, namely: "Want to know a secret?" What 12-year old can resist? With adults, the situation can be more delicate. You mustn't even hint that they're playing the game

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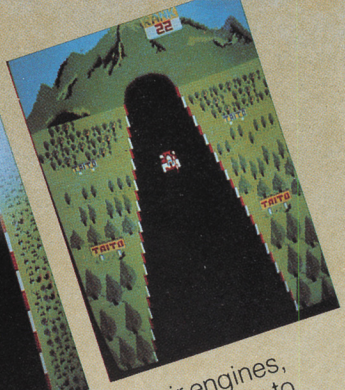

The course is plotted. The drivers take their positions, revving up their engines, their adrenaline pumping. The flag is lowered and the race is on! The player shifts to high gear and breaks from the field. With a deafening screech of tires, he floors the accelerator to lap his opponents! Along a rain-slicked course, through thunder, lightning, rain, sleet, snow, along a track that suddenly divides, through a dark tunnel and a blinding fog that headlights barely penetrate, it's a race against a field of speeding daredevils . . . and it's a race against the clock!

As he burns up the road, the Radar Screen lets the player scan the positions of the other cars as it warns him of the realistic hazards that will challenge his skill, his perception, his ability to react quickly. The Position Indicator flashing his progress all through the race, together with words of encouragement and challenge, urge the player on faster and faster . . . until a collision takes him into the pit and slows down his race to the finish! If a player is ranked among the top cars at the end of the race, he gets a chance to conquer the next, even more difficult course!

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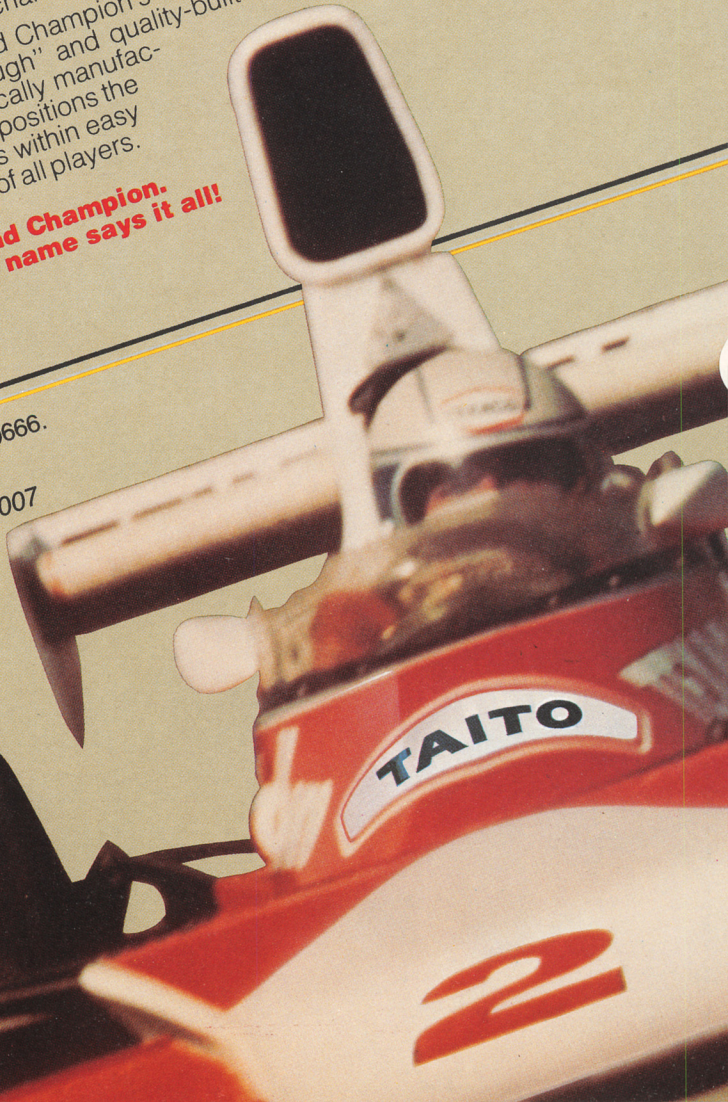

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wrong or overlooking something vital...even if they are. Remember it's their money, they can squander it if they so choose. But you are trying to get them to come back again, and again, and again, so...

Get into the conversation through the back door. Ask them if they like this particular game. Explain that you're the operator and you like to find out, from time to time, what your customers enjoy the most and why. Then start weaving the conversation toward the vital instruction he's apparently overlooked. Say something like: "You know, I saw a couple of college guys going at this game the other day and they were trying to figure out whether it's better to take this tactic or this one? Have you figured it out yet?" No matter what he answers, whether or not he admits he hasn't even tried that tactic yet, you've planted the seed, and in effect have invited him to try the game several more times, at least.

Okay, that sounds fine for instructions on some of the complicated games that some players may overlook. Should you take it beyond that, should you approach players who've progressed from beginner to intermediate on a given game? Isn't discovery beyond that point up to them? Yes and no; I can see arguments for both sides at that stage. With the proliferation of new games on the market you won't have the time, as an operator, to become expert at all of them. So how can you help a player progress from intermediate to expert?

Well, with Sega/Gremlin games the answer is the Player Tip Card. If you see a player battling furiously with any of S/G's games, wait till the game is over, of course, hand him a card and say something like: "You're pretty good and maybe you already know what's in here (the card) but maybe you'll find something that'll help you really beat the heck out of it."

More often than not, I'll predict, the reply you'll hear is: "Gee, thanks, mister!" or a more modern version, something like: "Hey, that's bad man, baaaaad. Thanks, brother!" or maybe you'll just see a big broad smile.

While Sega/Gremlin deserves applause for developing the PTC's they also get a demerit or two for printing the *Astro Blaster* Player Tip Card so late. I needed to know those "Secret Bonuses" long before I ever saw the Player Tip Card. Thank goodness the *Eliminator* PTC is already available.

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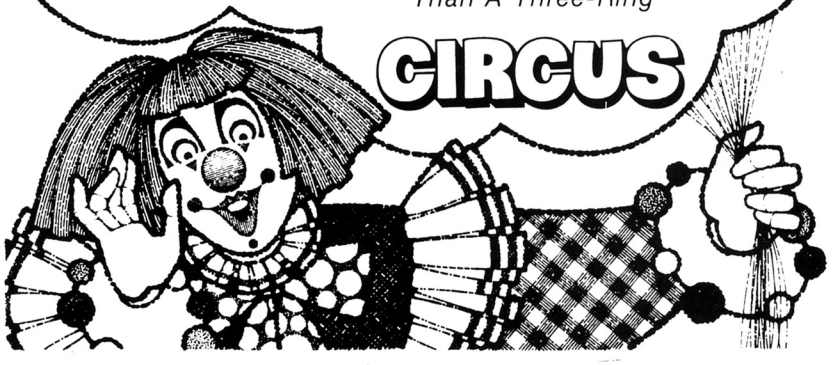

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Player's view:

Why patronize *your* game?

by Bill Brohaugh

I have on my desk at this moment a small chunk of dirty white brick. It's a prized possession. This brick was once part of a bar(n) that I disliked so much that when it was torn down, I gleefully snitched part of the remaining rubble as a reminder that the bar had met its deserved fate.

This bar was dingy and grimy. The bartenders were surly. The clintele was boorish and smelly. The bar's silly exterior was ridiculed in *National Lampoon* (honest).

But I regularly played pinball at that bar.

I played at Bob & Gene's because one of its two machines was an *Astro*, the only one I could find in the city at that time. If I wanted to play *Astro*, I had to weather dinginess, surliness, boorishness, and the embarrassment of playing in a bar with a ridiculous exterior.

The point to all of this is that there are players like me who will go out of their way to play the machine they want to play. You want that machine to be yours, and I'm going to offer a few tips from the player's point of view on how you can assure that.

Despite what it sounds like, this won't be a discussion of the "hit syndrome" and the fact that every operator and location owner wants the latest "rave" machines. Certainly, popular machines will attract players. Yet, remember that individual machines of the same model compete with each other. Your *Black Hole* is competing with the *Black Hole* in Joe's Bar down the street. Your *Defender* is competing with the *Defender* in the Zap Games Arcade in the shopping mall a few blocks away. Having the hit pins and videos isn't enough, therefore, you must convince the player to walk past Joe's and pop his coins into your pin. You must convince the player to drive past the shopping mall so he will play *your* video.

A machine in good general repair is an elementary lure to players for that particular game. *Photo: Taito America*

And even if your machine isn't competing with others in the area, it is, in a way, competing with itself. It can defeat itself. To avoid that, you must convince the impulse player as well as the dedicted player to drop that first quarter into the machine. By that I mean this: your potential player doesn't even know about Joe's Bar or the Zap Games Arcade. He has simply stopped near one of your locations for a quick drink after work. He wanders over to the game room to see what's there. In this case, your machines aren't directly competing with anybody else's machines—yet that player may decide not to play. You must, as I said, do your best to convince the player that putting money into these machines will be a good recreation investment for him—that he won't be wasting his money playing them, in other words.

How can you do that? By exercising as much control as possible over such factors as machine cleanliness, positioning of games, and etiquette in the game room. Some of the points I plan to cover will perhaps sound basic, yet I have seen so many "basics" ignored in locations around the country that I'm convinced a review of them can't hurt, especially for those operators just entering the field.

One of the first things I look for when deciding to play a particular game is its general condition. Of course, machines should be kept clean, with their sound systems

working and the general play of the games operating properly. I say "of course" hesitantly, because I have seen too many examples where keeping machines clean and operating properly is *not* a matter of course. A while back, I was in a bar that had a very small game room: two videos and a pin. I was in the mood to play some pinball while the bar band was on break, but when I approached the sole machine, I noticed that only one light on the entire playfield was working. Put a quarter into that thing? Forget it.

And how many other players had the machine's disrepair scared off? These and other major problem—chattering or weak flippers, targets that don't register, etc.—should be taken care of quickly.

But even little irritations can cause player dissatisfaction and drive him elsewhere—and here I'm talking mostly about *consistent* problems, because players can put up with the occasional glitch that is corrected quickly. But if the glitch persists...

My favorite arcade once had a *Missile Command* whose launch buttons would stick during play. I stopped playing the machine until the problem was fixed—which, sad to say, no one ever got around to doing. And I once played a particular *Mars* pinball regularly until the fact that a couple of burned-out bulbs were never replaced drove me to another machine.

The solution to this problem involves regularly checking all phases of the game to see that everything—from plunger to lights in the case of pins, and from buttons to screen in the case of videos—operates properly. Make sure the checks are thorough. Granted, that takes a little more time, but time invested in providing your customer—the player—with good service and an excellent product is well spent. Let's go back to that particular *Mars* machine I mentioned before as an example. I know that it received regular attention, because other, more visible problems were always corrected when they arose, and I noticed that the playfield was waxed regularly. Yet, those burned-out multiplier lights were never fixed.

Cleanliness is a factor, too, as I implied before. A clean, waxed playfield on a pin makes for a more attractive machine and a more exciting game. A well-cared-for video is likewise more attractive. And this is true not only because the machine looks "prettier," but also because it looks like it isn't battered and shoddy. Battered and shoddy tells a player that the machine isn't worth putting money into.

The location's part

That's what you can do *directly* to keep machines more attractive. Indirectly, you can persuade the location owner to do his part. It would be nice if you could afford to post guards to protect your machinery, but you can't. What you *can* do is enlist the location owner to be more watchful when "policing" the games.

Remember that your equipment, valued at thousands of dollars, is overseen by someone who doesn't own that equipment, and, therefore, doesn't have a cash stake (beyond the quarters it takes in) in making sure that it is being handled properly. Many times, a location owner's lack of respect for the actual value of coin-op games is simply a matter of his not understanding the investment tied up in the equipment.

Impress upon the location owner and his staff exactly what the stakes are. Let them know that this is no sophisticated toy sitting over there in the corner. It is a piece of business machinery, as much as the location owner's cash register is. He wouldn't allow someone to spill beer on or kick the cash register, would he?

Make sure the location owner understands the real value of the game equipment you supply him with.

Point that out to him; make sure he understands the full value of the coin equipment you supply him with.

Make him understand, too, that *his* commissions from the machine depend on if the machine is working, and if it is working properly.

The basics of policing the games are obvious: the location owner shouldn't allow players to kick, spit upon, slop beer on, or perform any of the other nasties that can happen to a poor, helpless piece of machinery. Again, I use the word "obvious" with some hesitation. I walked into one joint about a year back to find a *Galaxy* pin with footprints on the playfield glass! These weren't some kid's sneaker prints, either. They were prints from size 12 or larger waffle-stomper hiking boots. Now, did the location owner supposedly overseeing the care of that machine think that basic policing was "obvious"? Apparently not.

There is another, less obvious level of policing that the location owner should also be aware of. For example, some players take the word "pin*table*" too literally, and interpret it as if it meant about the same thing as "coffee table" or "kitchen table." These players put drinks on the pin, drape coats on the pin, even crush out cigarettes on the pin. How many times have I gone into a bar somewhere to play a machine only to discover a forest of beer bottles on the playfield glass? And how many times have I gotten surly looks from the owners of those beer bottles when I've asked them to remove the junk so that I could play?

It shouldn't be my business to ask these people to remove their bottles; it is the location owner's business. There are some players that won't risk the surly looks by asking the offenders to clean up after themselves, either.

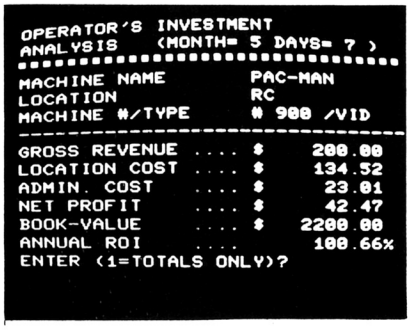
Those players have been scared off. Their quarters have been scared off. So it's important that you demonstrate to the location owner the need to ask people to not put anything on machines they aren't playing (and, if they put their drinks on the glass of the machines they *are* playing, to be careful not to spill them). This will also help the looks of the machine by keeping ashes, bottle rings, etc., off the glass.

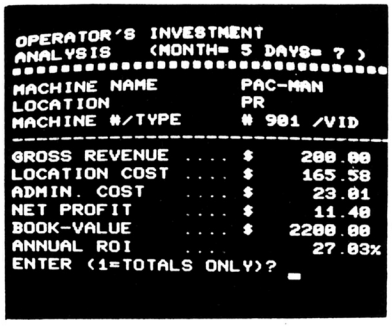
Ideally, the location owner should supply adequate space in the game room where people can place drinks, hang coats, etc. If he doesn't, encourage him to move in a coat rack and a couple of tables (without chairs, so people don't sit at them and defeat their purpose). A tall table, about elbow high, is a good receptacle for customers' drinks and cigarettes. What's more, you should consider buying some of those wire racks that can be mounted on the sides of the machines to hold drinks and the like.

Post the rules: Good PR

Work with the location owner on a couple of signs to post in the game room. There should be, for example, a sign that outlines many of the rules we have just talked about: no drinks or coats on the machine, no hitting or kicking the machines, no sitting on them, and—if the location is as wild as the one where I found the footprinted *Galaxy*—no dancing on

BECAUSE THINGS ARE NOT ALWAYS AS THEY APPEAR...





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Position your machines to accommodate traffic walking through the restaurant/ bar so that players don't collide.

the machines.

But all the signs you post need not be of the pushy "don't do that" variety that we see so often. Why not a sign that asks players to immediately report any defects in the machines to the management? This will serve two purposes: First, the management can write down what the defect is and report it to your service person, and repairs on little things like those burned-out lights I complained about before can be fixed during a service call. Second, such a sign would communicate to the player that the management is concerned about the condition of the machines, and is just as concerned with keeping the player pleased. That's good PR.

Another area affecting game attractiveness lies in the positioning of the machines. I'm not talking so much of the strategy of game placement in terms of catching the player's eye—which way the machine faces, whether you should jposition low-earners next to hits, etc. I'm talking about positioning the machines so that players aren't jostling and bumping each other as they play.

Imagine two machines facing each other, and only four feet or so of space separating the fronts of the machines. Put two players in front of each game. Now, dare someone to walk between the two players, especially if those players use a lot of leg motion and body English.

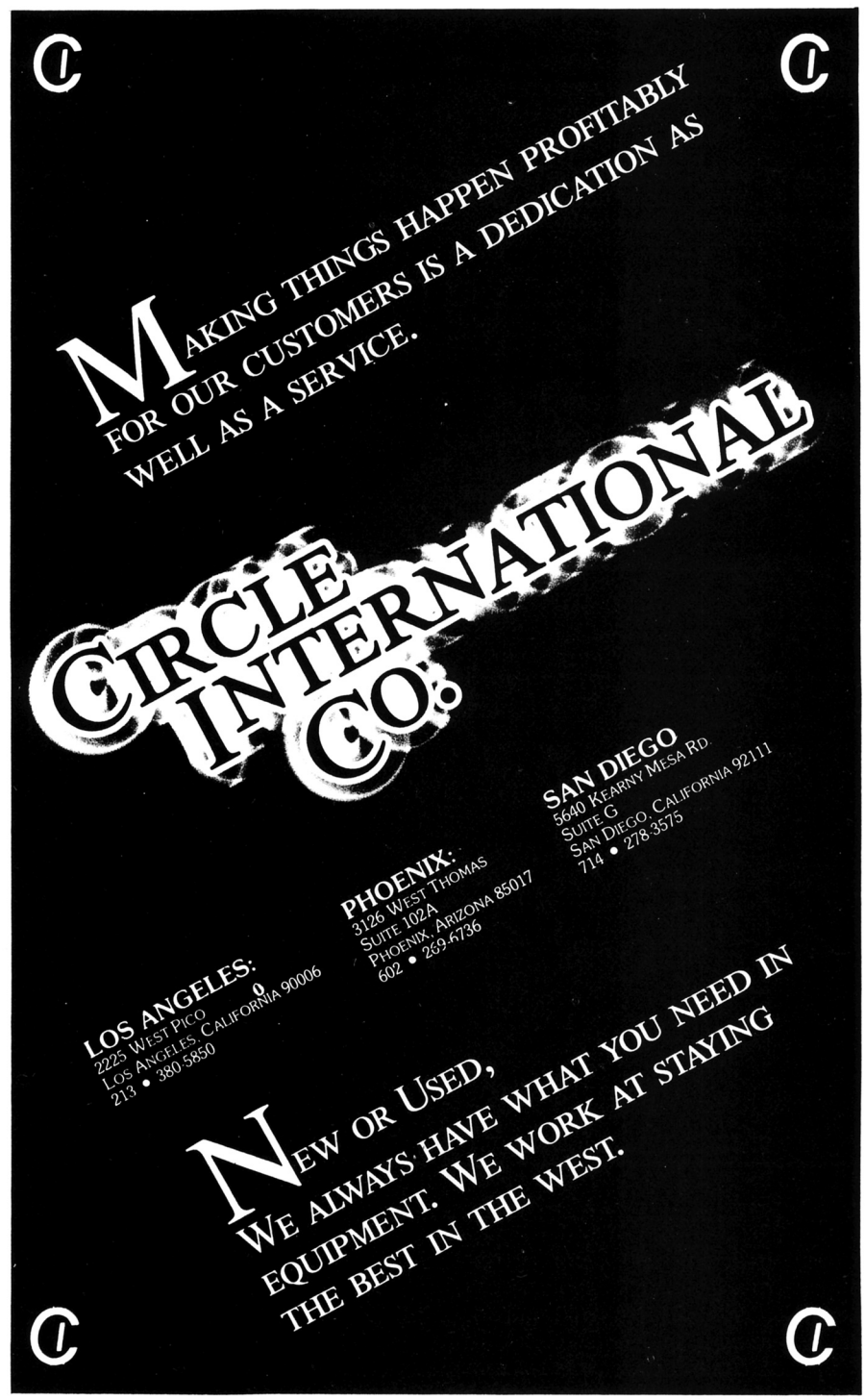
Now, extend that image so that you have two facing rows of four machines in each row. Fill that game room on a Friday night with players, and you have a little restaurant/bar that I used to frequent. Used to. But this restaurant made the strange mistake of placing those games between the bar and the kitchen, so that waitresses and bartenders were constantly fighting through the rows of players, disrupting their games. Waitresses and bartenders and the normal jostling caused by such cramped quarters were distraction enough, but when the bartenders started rolling kegs of beer through the game room...

Well, this story has a happy middle and a sad ending. In remodeling the restaurant, the owner moved the kitchen to another part of the building. No more waitreses and beer kegs. That's the happy part. The sad part is that shortly after the remodeling, the restaurant opened an upstairs loft. To get there, customers had to walk, you guessed it—through the game room, and the problem started all over again. I gave up on that restaurant.

Accommodate the traffic

The point to all this is that you should position your machines to accommodate traffic flow. Don't position machines so that players bump derrieres if they happen to step backward at the same time. Don't direct "alleys" of traffic through rows of players. Direct those alleys (if they have to exist in the first place) around the machines, or make sure that there is ample space between the rows.

Players should have easy access to games. They should be able to walk right up to a free machine without having to utter a single "excuse me" or "oops, sorry." Don't put



obstacles, human or otherwise, between the player and the game. Make it easy for him to get to the machine.

It may be difficult to see problems in machine positioning when you install a machine during a slow afternoon. Return to the location during a busy period and watch for problems. Don't simply toss the machines into the location and run away. Become actively involved in correcting problems like poor positioning.

And try to resist the temptation to cram as many machines as possible into a location. Remember, players have to breathe, and just as pool players won't shoot on a table so close to the wall that they can't properly extend their cues, video- and pin-players will be frustrated by playing on machines so crowded together that they keep ramming elbows with other people.

My final tip involves proper adjustment of the sound level of the machine. Be sure that the pins and videos you operate can be heard above normal location noise. (But don't let them get so loud that they become obnoxious.)

Unlike children, coin machines should be seen *and* heard. For three reasons: (1) So that the attract mode can do its duty; (2) To increase the general interest in the game and to maintain a certain level of excitement that well-designed sound—especially sounds that increase in tempo as play continues—produces; and (3) To provide the player with "audio landmarks." I try to keep track of how many points I'm scoring on a particular ball when playing a pin by listening to the sounds. That squeak I know means 1,000 more points; that squawk, 10,000. I can keep a general idea of how well I'm doing in my head without having to look up at the backglass during play.

I doubt that many players depend on sound in the same way, but remember that many machines are now programmed to "coach" the player. If the player can't hear the interesting noises, can't hear the coaching, can't hear the exhilarating pop of a knocker unit when he's won a free game...well, what's the use of playing? And consider the sweet vengeance a player first discovering *Gorgar* has when the machine dolefully admits, "Me hurt." You have to hear it to believe it, and I've played a *Gorgar* or two where you simply couldn't hear it. Sad.

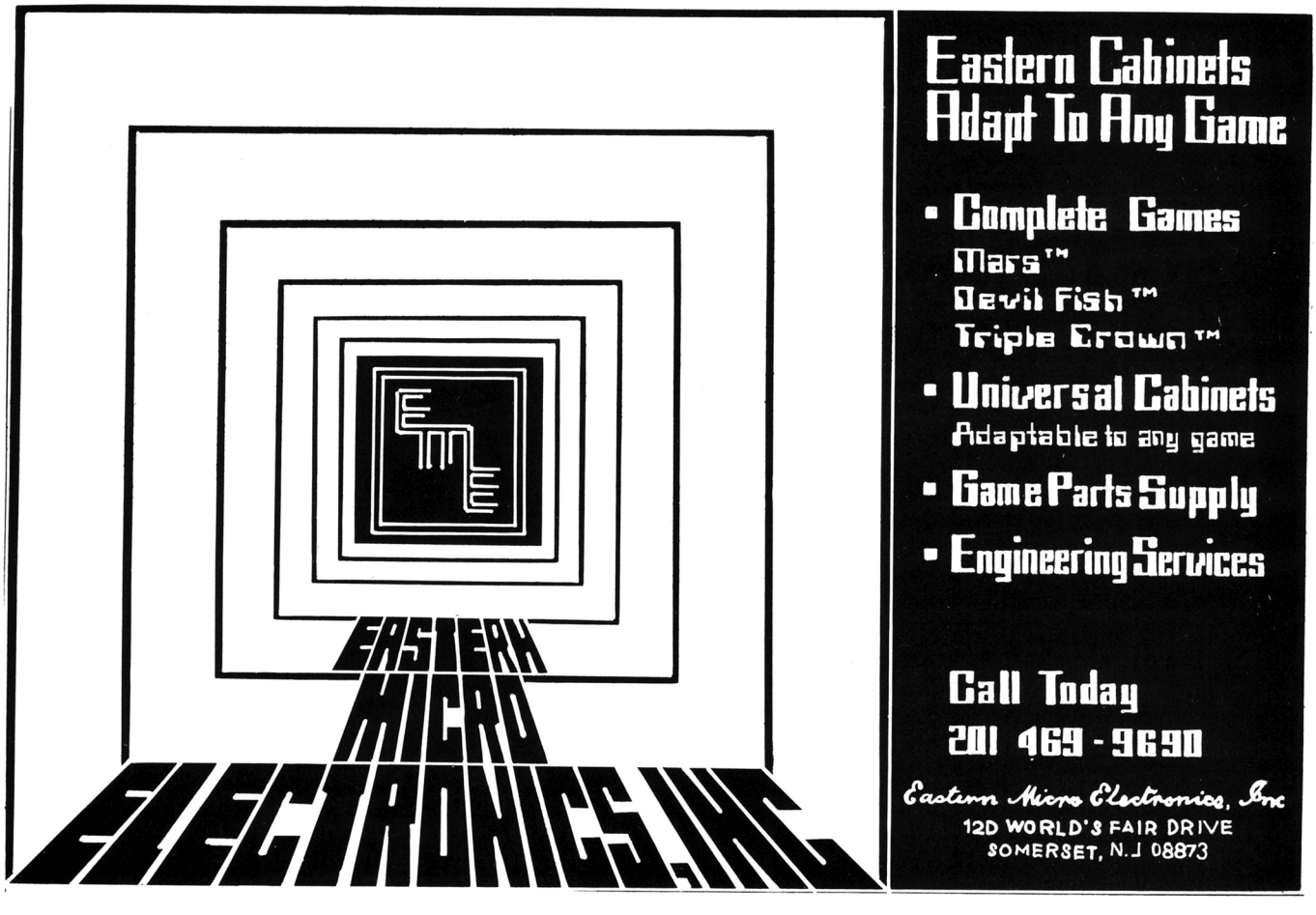
Here again is a situation in which visiting the location during a busy period will prove valuable. What may have sounded quite loud enough when you installed the machine on a quiet afternoon may be drowned out by background music and clinking glasses and general chatter on a hoppin' Friday night.

What all this boils down to is that there are many factors that determine whether or not a player puts money into a particular machine or whether he chooses to play at a certain location. And there are many annoyances that can drive that player away. These are factors that you can control directly or indirectly. They are details, yes. But they're important details.

Oh, yes. I have another prized possession in addition to that small chunk of brick that I want to mention to you. On the first floor of my house, directly below me as I type this, sits an *Astro*. It isn't the one that I played in Bob & Gene's so many years ago, but I bought it for my home anyway. You see, players *do* go out of their way to play the machine they want to play. •

Brohaugh has contributed trivia quiz and puzzle pages to Play Meter, *more of which will appear soon.*

—ed.



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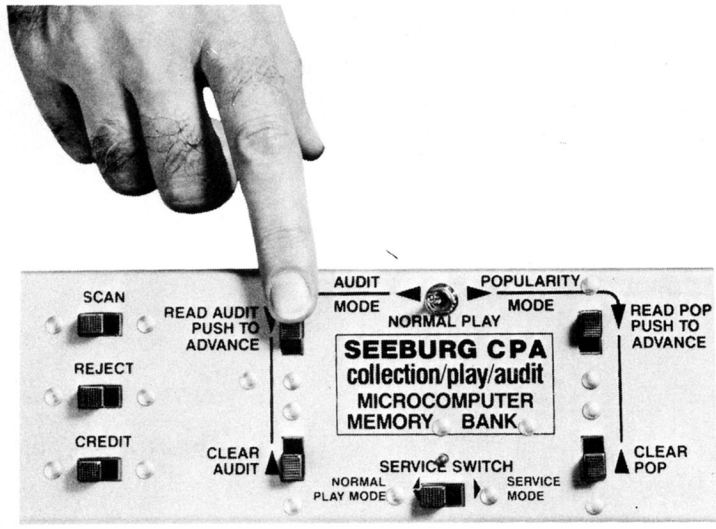

MUSIC PROGRAMMING

by pat matthews

Same faces, different songs

There are new and old faces adorning the body of music this time around. The famous and the not so famous, as yet. So, let's get right to the anatomy of the specimen.

***Nobody Said It Was Easy (Looking' For The Lights)*—Le Roux**—RCA/JH-13059

So they've dropped the "Louisiana" before their name, and more importantly, they've changed labels at a most opportune time. There's also been a slight change in musical direction. The group still has their own unique harmonies, but the overall sound is more polished and commercial. The song itself is the perfect vehicle to get these guys a much deserved niche in the music biz. Great record!! *9 out of 10*, or more.

***Freeze Frame/Flame Thrower*—The J. Geils Band**—EMI America/SPRO-9742/SPRO-9744

This is one of those rarities. An attempt at a double sided hit is what is before you for your entertainment. "Freeze Frame" is the killer. It's the title cut from the multi-million lp from the "party band" of all time. One listen and you can relate to every party you ever attended: the Fifties, Sixties, Seventies, and now, the Eighties! An absolutely flawless record. They'll be dancin' on the tables.

The flip-side is a hard drivin' sound of J. Geils, heavy on the bass and the funk—never losin' sight of the dance floor. This side is geared to Black Radio and is custom made for that medium. This one could be the one to cross over to the Top 40 stations. J. Geils and the group have found the right formula for success after nearly twenty years. This double sided smash is headed straight to the top, so don't hesitate. *10 out of 10* before you know it!

***'65 Love Affair*—Paul Davis**—Arista/AS-0661

Always changing styles, once again Paul Davis doesn't let grass grow under his musical feet. This time it's a bouncy song about the year in the title complete with background cheers, doo-wops, and hand-clapping to make you wish high school dates would be eternal. No matter the style, Davis has himself another irresistable ear-catcher: *10 out of 10* easy (in any year).

***Tell Me Tomorrow*—Smokey Robinson**—Tamla/1601TF

The new album from this ageless wonder is called "Yes It's Your

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- ☐ **BOBBIE SUE—Oak Ridge Boys**—MCA
- ☐ **SHAKE IT UP—Cars**—Electra★★★
- ☐ **SPIRITS IN THE MATERIAL WORLD—Police**—A&M★★★
- ☐ **TAKE IT EASY ON ME—Little River Band**—Capitol★★★
- ☐ **I LOVE ROCK 'N' ROLL—Joan Jett & The Blackhearts**—Boardwalk★★★
- ☐ **LET THE FEELING FLOW—Peabo Bryson**—Capitol
- ☐ **SHOULD I DO IT—Pointer Sisters**—Planet
- ☐ **CENTERFOLD—J. Geils Band**—EMI America★★★
- ☐ **MAKE A MOVE ON ME—Olivia Newton John**—MCA★★★
- ☐ **ANOTHER SLEEPLESS NIGHT—Anne Murray**—Capitol★★★
- ☐ **TAKE OFF—Bob and Doug McKenzie**—Mercury
- ☐ **MIRROR, MIRROR—Diana Ross**—RCA★★★
- ☐ **SWEET DREAMS—Air Supply**—Arista★★★
- ☐ **I CAN'T GO FOR THAT—Daryl Hall & John Oates**—RCA★★★
- ☐ **THAT GIRL—Stevie Wonder**—Tamla★★★
- ☐ **THROUGH THE YEARS—Kenny Rogers**—Liberty★★★
- ☐ **LEADER OF THE BAND—Dan Fogelberg**—Full/Moon/Epic★★★
- ☐ **OPEN ARMS—Journey**—Columbia★★★
- ☐ **PAC-MAN FEVER—Buckner and Garcia**—Columbia
- ☐ **LOVE IN THE FIRST DEGREE—Alabama**—RCA★★★
- ☐ **WE GOT THE BEAT—The Go-Go's**—I.R.S.★★★
- ☐ **DADDY'S HOME—Cliff Richard**—EMI America
- ☐ **TONIGHT I'M YOURS—Rod Stewart**—Warner Brothers★★★
- ☐ **KEY LARGO—Bertie Higgins**—Kat Family/Epic

★★★*Denotes songs reviewd previously by* Play Meter.

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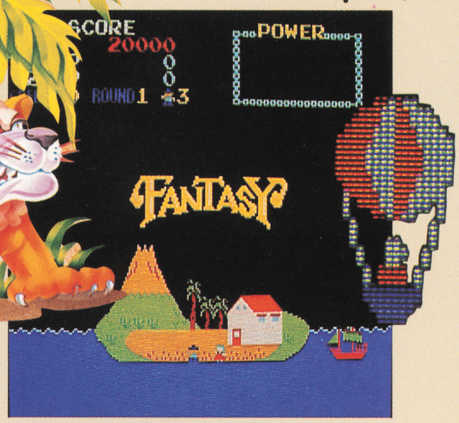
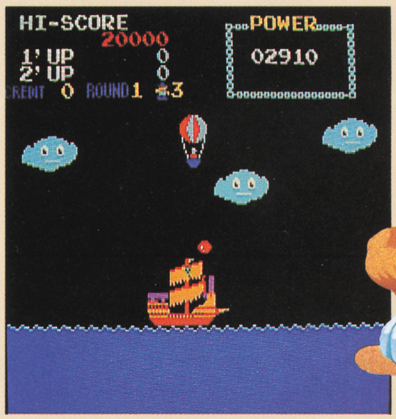
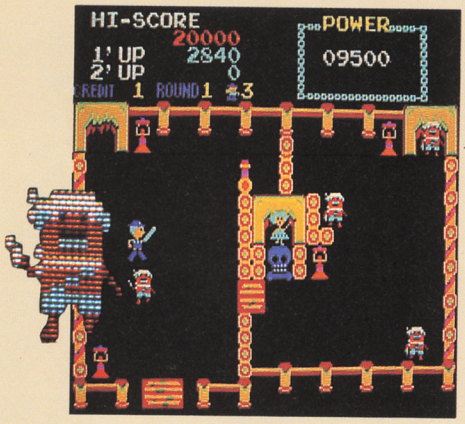


1. Pirates kidnap "Cheri" from your Fantasy Island. The chase begins.



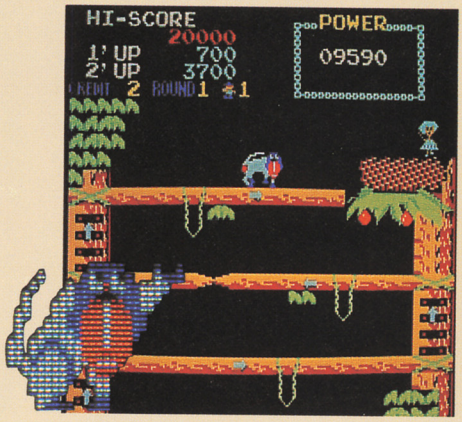
2. You pursue pirate ship in hot air balloon. Avoid cannon fire and land on deck.

They'll pour their hearts and quarters into this game.

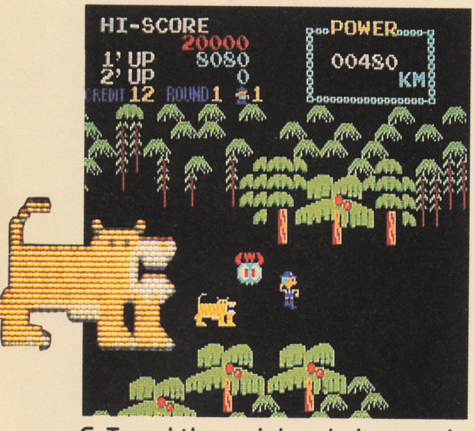


3. Once aboard, you attack pirates with sword or lead them into cannon fire. As you approach "Cheri", a bird steals her away.

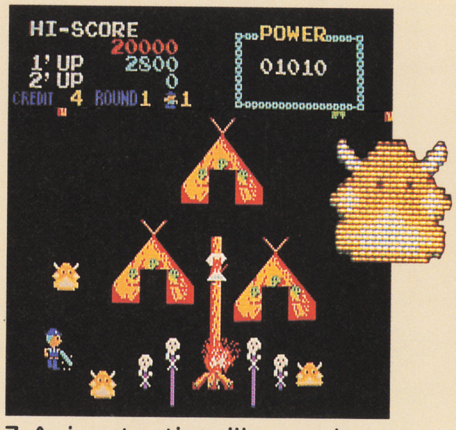
4. Chase through jungle in balloon in search of "Cheri" but beware of coconut-throwing "Kong" gorilla and attacking birds.



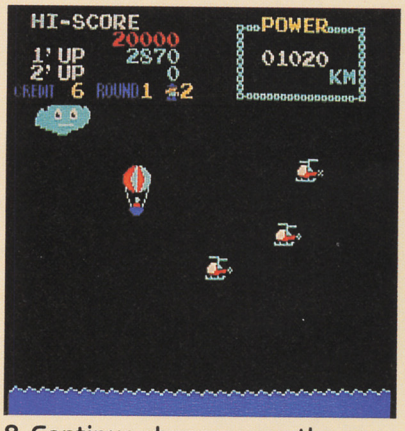
5. Bird has "Cheri" captive in high roost. Watch out for coconut-throwing baboon and sly foxes. As you attempt to save "Cheri", a native kidnaps her.



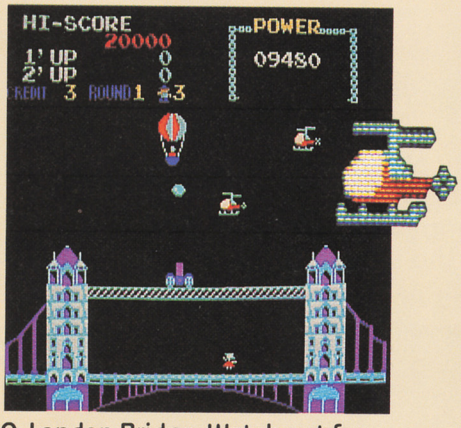
6. Travel through jungle in search of "Cheri" avoiding tigers, trees and natives.



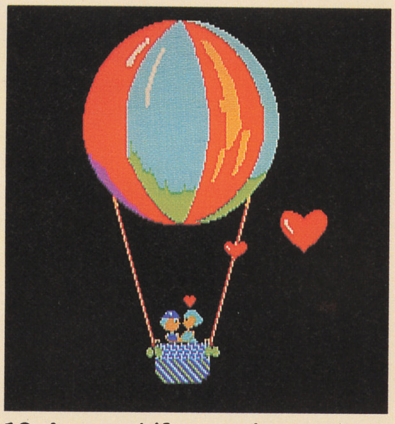
7. Arrive at native village and see "Cheri" tied to stake. Fight and destroy natives. Just as you think "Cheri" is saved, a helicopter whisks her away.



8. Continue chase across the sea, avoiding deadly helicopters and fly onto...



9. London Bridge. Watch out for cannon fire. Lure hostile choppers into cannon fire; and if all are destroyed, bridge will open and you can save "Cheri".



10. As you drift away in your hot air balloon with "Cheri" safely inside, she says "I love you". Begin again!

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Lady." And the song chosen as the first single from the new lp is perfect, as usual! It's breezy and soulful and packed with superb instrumentation. The bass line is the hook throughout, with a lush string arrangement down in the mix. But, there's more! A brief, yet effective, sax solo three-quarters of the way through and those patented vocal chords of Mr. Robinson keep Motown on the map and this record a contender for the crown: *10 out of 10* on highest chart.

***Edge of Seventeen (Just Like The White Winged Dove)*—Stevie Nicks**—Modern Records/7401

There's a bit of confusion surrounding the release of this record. There could be two versions floating around: one "live" and one "studio." Nevertheless, it's still the same song. And what a song! Stevie's in fine form once again on this medium tempo rocker. The "chug-a-lug" beat makes this one sound more like Fleetwood Mac than some things the group has done together in quite sometime: *10 out of 10*.

***Chariots Of Fire*—Vangelis**—Polydor/PD 2189

Every once in a while a song comes along that is totally different than anything being played and heard at the time. "Cast Your Fate To the Wind" from the Sixties and "Close Encounters Of The Third Kind" of the Seventies come to mind. And this is another one of those. Heavily synthesized, there is a beautiful melody all the same. Nice song to relax to while stuck in traffic somewhere. Could go as high as *9 out of 10*.

***The Longer You Wait*—Gino Vannelli**—Arista/AS 0664

This singer has been like the chicken inside of an egg, waiting to be hatched. With this, the debut single from his second Arista album, Gino seems to be emerging from his shell. And in his words—"the longer you wait, the days are getting shorter and the farther you drift from the shore." Great gutsy vocals from this lady-killer, excellent background vocals and instrumentation (particularly the sax solo) all add up to another hit notch in his belt: *9 out of 10* or more.

***Teach Me Tonight*—Al Jarreau**—Warner Brothers/50032

The song is the classic Gene DePaul/Sammy Cahn composition which has had a few "cover" versions in its day. It's dreamy and a perfect showcase for the sensitive jazz oriented vocals of this truly talented singer. The sax must be making a comeback! It's in this one, too! And it's a perfect compliment to the vocal stylings of this recent double Grammy winner. This last fact, my friends, is just about all the insurance one needs for success when the record follows so "hot on the heels," as it were; *10 out of 10* in many categories.

***Somebody To Love*—Dwight Twilley**—EMI America/P-B-8109

For those of you who don't remember, it was this gentlemen along with Phil Seymour who made up the Dwight Twilley Band of the early Seventies. Remember "I'm On Fire"? This first-in-a-long-time effort from Twilley is just simple rock in one its more primitive states. Pounding drums with hints of fuzz-guitar somehow carry this one through. His double-tracked vocals also hearken back to a musical ear of long ago. Well produced and probably well accepted; *9 out of 10*.

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No. 6 in the Series

Business Myth of the Month

By Charles C. Ross

The Myth

"If I put another machine at that location my revenues will increase, so I should go ahead and place a machine there."

This myth is one that may or may not prove to be a myth. Here again the fallacy of the operator's thinking is in looking at revenues and not looking at profits generated per machine.

Many times an operator will have several machines at a location and because of space availability or a gut feel, the operator or the location owner will decide that the location is in need of more machines.

Well the big question is: "If we do put more machines in the location, what is going to happen to profits generated at the location?" (The question is not what is going to happen to revenues which may very well go up while profits go down.)

So in essence we are asking the question, "What is the optimal number of machines to place at the location?" Now that is a very difficult question to answer, mainly because of the different quality of machines which could be placed at any location. In other words we could have machines which are in the top 10 in the national polls or machines which are not in the top 10 in the polls. The machine mix will have a great deal to do with the profits generated at the location.

For the purpose of demonstration of how to approach the problem we will assume that the operator has placed machines which he feels are proper for the location and is now considering the placement of more machines at the location.

At the Palm Club, a location of the "Magic Machine Amusement Company," operator A. C. Outlet has four machines placed. An income statement for the four machines follows:

Weekly Revenues	$548
Location Costs	389
Admin. Cost	75
Location Net Income	$ 93

A brief explanation is needed at this point. The location cost in the location income statement includes the depreciation on the four pieces of equipment, the 50% split to the location; employee service time, and travel expenses to and from the location once a week. The administrative cost is a per-machine cost of operating Mr. Outlet's entire route.

Now Mr. Outlet is considering the placement of one additional machine in the Palm Club. Two possible outcomes are show below:

	Outcome #1	Outcome #2
Weekly Revenues	$600	$675
Location Costs	432	483
Admin. Costs	94	94
Location Net Income	$ 74	$ 98

Again a brief explanation is needed. The location costs are different for each of the locations because part of the location costs is the 50% split to the location owner. The administrative costs increased because administrative costs are allocated on a per-machine basis and there is now one more machine at the Palm Club location.

If the operator faces Outcome #1, the solution to the problem is quite simple. Why should he put another machine at the location? True his revenues increase (thus the belief in the myth), but his net income from the location dropped by $19 per week. Hardly a good business decision.

Now for a little more deception created by revenues. In Outcome #2 the revenues per week increased from $548 to $675, an increase of $127 per week. Many operators would consider that a fair increase for the placement of the additional machine. However, in terms of net income the increase from the additional machine is only $5 per week! That small amount of increase in net income will make any operator think twice about the placement of another machine at a location.

Two things become painfully obvious. One, just because the revenues are going to increase with the addition of another machine at a location does not mean the machine should be placed at the location. The question is: Are revenues going to increase enough to offset the added depreciation expense and administrative overhead associated with that additional machine at the location?

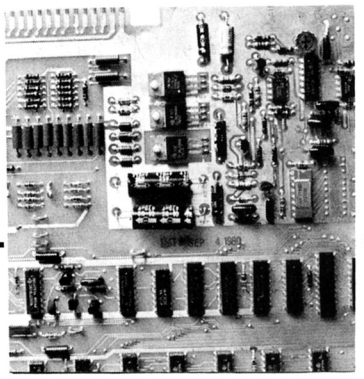
The second observation is painful but not so obvious. The days of the 50% split must come to an end—or operators are going to let the biggest boom in the history of the amusement machine business be harvested by the locations. (That will be the subject of a future article in this column.)

So the next time a location calls and says, "We have just moved out two tables so you can bring us two more machines," do your homework before you leap in there with additional equipment and additional expenses. Make sure it will pay off in terms of net income, not in terms of the ever-deceiving revenues.

Charles C. Ross is a partner in the firm of Innovative Management Consultants which specializes in consulting to amusement operators.

'The Arcade School'

by Randy Fromm



Know your regulators

With few exceptions, the integrated circuits used in electronic games require the use of low voltage power supplies. The vast majority of ICs need only a single +5 volt power supply to operate. But some require three different voltages! Many of today's video games use a computer system whose power supplies must provide not only +5 volts, but +12 volts and -5 volts as well! That's right—negative power supplies are often used in video games. And a negative power supply is just as important to the proper operation of the game as any of the positive power supplies!

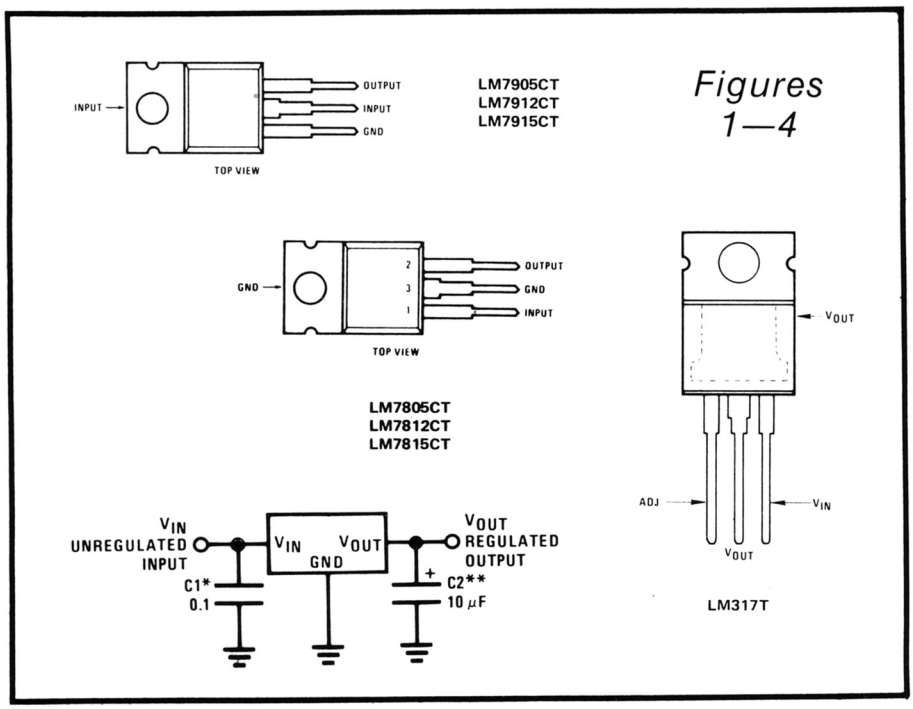
Regardless of whether the power supply is positive or negative, it is important that the output voltage remains constant, and not fluctuate appreciably. If the output voltage varies more than about +/- 5%, the computer can do all kinds of wacko things! You may see "garbage" on the screen, strange numbers or letters may appear, the picture can "freeze up," or any of a number of different symptoms may occur.

For that reason, most of the supplies that power the computer are "regulated" power supplies. Before the DC power supply is connected to the computer, the current passes through a circuit called a "voltage regulator." The voltage regulator circuit assures that, despite any changes in the voltage at the AC power receptacle, the voltage of the supplies that power the computer remains constant.

There are a few different types of voltage regulator circuits. Some regulator circuits use a combination of transistors and Zener diodes to perform the voltage regulation function. Others use transistors and integrated circuits.

One very popular type of voltage regulator for use in video games (and electronic circuits in general) is the "three terminal regulator." The three terminal regulator is actually an integrated circuit that has all of the voltage regulator functions in a single package. This makes it easy to regulate just about any power supply! You simply connect the unregulated DC to the input of the regulator, and take a regulated DC from the output. The three terminal regulator does all the work of regulating the voltage, keeping it constant (see fig. 1).

When video games have problems, the cause can often be traced to a power supply failure somewhere. Quite frankly, there are generally only three things that fail in power supplies. The most common failure is to have the diodes (rectifiers) short circuit, causing the fuse to blow. Other than that, it's a toss-up between a bad filter capacitor and a bad regulator. Neither of these will blow the fuse, but failure of either will



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cause the computer to behave erratically at best, or not at all.

Since failure of one or more of the three terminal regulators in a game is a fairly common occurrence, the more we know about them, the easier it will be to find the bad part, replace it (usually at a cost of little more than a dollar), and get going to the next service call.

One of the most popular types of three terminal regulators is the LM78XX series. This regulator comes in a TO-220 package (see fig. 2). This type of package may be familiar to you as the same as is used for a pinball machine's solenoid driver. This particular package for electronic components is designed as the TO-220 (Transistor Outline number 220) package. But don't automatically assume that any TO-220 package contains a transistor. For, as we see here, it may actually be a voltage regulator integrated circuit. The only way to tell what the part actually is, is to look at the part number that's printed on the part itself. It's just like going to the dairy section of the supermarket to get a carton of milk. All of the milk packages look pretty much the same. The way to tell the difference between regular, low fat, and non-fat milk is to read what's printed on the carton itself. The label tells you what's inside.

Typical regulators in games

The LM78XX series of three terminal regulators comes in a variety of different output voltages, but in games we generally see only three: +5, +12, and +15 volts. Notice that these are all positive voltages. The LM78XX series can be used to regulate positive voltages only! A different series of regulators is used to regulate negative power supplies. (We'll get to those later.)

The output voltage of the regulator can be easily determined by looking at the part number that's printed on the device. The output voltage is indicated as the last two digits of the part number, where the "XX" is. Thus an LM7805 is a +5 volt regulator, an LM7812 is a +12 volt regulator, and an LM7815 is a +15 volt regulator. This makes your job easy when troubleshooting, because you don't have to look up the part number in a "databook" (reference book of parts and part numbers) to find out what it does and what the output voltage is supposed to be. You know that a type LM7805 is supposed to have a +5 volt output just by looking at the part number.

All of the LM78XX series voltage regulators can handle output current of at least one amp, and all have the same connections. This is, the lead on the left is the input connection, and the lead on the right is the output connection. The center lead (which, by the way, is always connected to the metal tab on the top of the package as well. This is true for all TO-220 packages, whether they are regulators or transistors.) is usually connected to ground. It's important to know how the leads are arranged. By knowing that the right lead is the output, testing the voltage regulator is a simple matter of measuring the voltage at the output lead. It should be the same as, or pretty darn close to the voltage indicated by the last two digits of the part number.

The unregulated DC, which is the input to the regulator, will always be somewhat higher than the regulated output voltage. In order to regulate properly, the unregulated input voltage must be at least 2.5 volts higher than the output voltage. For a +5 volt output, for instance, the input must be at least +7.5 volts or the regulator will "drop out" of regulation.

In fact, you will always see the unregulated input voltage be substantially higher than the output. Often, the unregulated input to a +5 volt regulator will be somewhere around +10 to +12 volts. In Atari's *Asteroids*, there is a +5 volt regulator that actually has around +22 volts as the unregulated input! Although this is well below the maximum input voltage rating for the device (+35 volts), the high input voltage does cause this particular regulator to fail fairly often. Many of the *Asteroids* board repairs are a simple matter of testing the output of the +5 volt regulator (the middle regulator in fig. 3) on the right hand lead and finding it bad—typically, it will have a very low output voltage, from a fraction of a volt, up to a volt or two—checking the input voltage on the left hand lead and finding it to be good (+22 volts), and changing the faulty regulator.

Certainly, if the input to the regulator is good, but the output voltage is bad, the regulator itself must be bad! That's how to test them. If the input's good and the output's bad, the regulator itself is almost assuredly bad.

There is another series of part numbers that you will also see for positive, three terminal regulators. The LM340T-XX is an upgraded version of the LM78XX series. You will see the two used interchangeably. In fact, some regulators actually have both part numbers printed on them. The connections are the same input on the left, ground in the middle, and the regulated output on the right. The voltage of the LM340T-XX series is shown as the number in place of the "XX." Thus an LM340T-12 is the same as an LM7812. Both are +12 volt regulators.

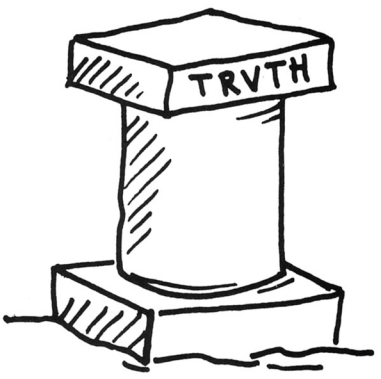
Suppliers' designations

These regulators are available from a number of different semiconductor manufacturers. Although the basic part number remains the same between them, different manufacturers use different prefix letters in their part numbers. The LM prefix is used by National Semiconductor. Fairchild uses uA as a prefix. Motorola uses MC. The two-letter prefix can generally be ignored. Thus a uA7805 is the same as an LM7805.

Regulating negative power supplies requires the use of a negative, three terminal regulator. The LM79XX series is used to regulate negative power supplies. As before, the output voltage is indicated by the last two digits of the part number. Thus a 7905 is a -5 volt, a 7912 is -12, and so on. Another part number you might see for the same type of regulator is LM320T-XX. As before, the last two digits indicate the output voltage.

It is very important to note that the connections are different for the negative regulator! The right hand lead is still the output, but the other two leads have been swapped. The left lead is grounded, and the middle lead is the unregulated input. Remember, the middle lead is also connected to the tab of the device. This means that the tab might have as much as -22 volts on it. The left-hand regulator in figure 3 is a 7915, -15 volt regulator on an *Asteroids* board. Notice how the grounded metal backing has been etched away from behind the metal tab of the device. This prevents it from short circuiting.

The 78XX and 79XX series have fixed output voltages. Some games have adjustments that allow you to set the output voltage of the regulator with a variable resistor or "potentiometer" (see fig. 4). An adjustable, three terminal regulator is used when adjustment is desirable. The LM317 is an adjustable, three terminal regulator. Notice that the connections are different on this regulator too. The adjustment input is on the left, the output is in the middle, and the input is on the right. •



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Handbook tells how

New operators can cut costs

by Dick McNicholas

Have you been feeling the squeeze of this recession on your net profit? Are you interested in lowering your overhead? If you are a small independent operator you have most likely answered "Yes" to these two questions.

I have run a small route for six years and it has always been my objective to lower overhead and keep the net profits as high as possible. Small operators have always been subjected to the spiraling costs of equipment and service. Learning to operate in a highly technical field such as ours has been challenging at best. If you can't service your equipment yourself then you are at the mercy of the factory, local distributor, or qualified independent serviceman—all of which increases down time of your machines and decreases your net profit.

When was the last time your distributor raised his service fees citing rising costs to him and the need to employ more expensive test equipment to provide better service for you? The small operator who does not know much about electronics may ask himself how he can get around this additional expense and keep his overhead from eating away at his profits.

If you really are interested in cutting your overhead then following these suggestions will help you accomplish this goal:

A. Attend all factory sponsored schools held in your area. In most cases these are offered at no expense. (Check with your distributor.)

B. If you subcontract your work out to an independent serviceman be present when he does his work. Ask questions and above all learn from him to save calling him again for a similar problem.

C. Enroll in a basic electronics course to get some background on symbols and definitions of electronic terms and to better understand the principles of electronics.

D. Hire an electronics student from a local high school or technical school.

If you are running in a small route and need help cleaning and repairing games in order to free you for more important things, then consider hiring a high school student that is ambitious, knowledgeable and reliable. The trick is finding one to meet your requirements. Here is what I have done and it may help you, also:

First, phone the high schools in your area and inquire as to whether they offer an electronics class to their students. If they do, then set up an appointment to meet with the instructor. After an introduction and explanation as to who you are, what you do, and what you want, ask him if he would assist you in finding a student who would like to work a few hours after school and on weekends. Be sure he understands that you want someone with some electronics knowledge who is responsible and reliable.

After obtaining a list of interested students, arrange for individual interviews. Questions you may want to ask during the interview are such things as: (1) the types of electronics classes he has taken and what grades he received in these classes; (2) what their interests are (remember you are looking for a student genuinely interested in electronics); (3) does he possess a valid driver's license?

Once you have interviewed the applicants and have selected the one you feel fits your needs then have him work a few hours with you to further see what his abilities and capabilities are. If you are pleased with his work then design a work schedule for him. You will need to work closely with him initially to show him how you want the work done.

Remember all employees must be taught what is expected of them and what they are to expect from you. Once you have come to a decision on the employee it would be advisable to call the others you had interviewed and let them know the position has been filled. You may want to retain in your files the applications of others you felt might be qualified prospects for employment in the future. •

Cutting the cost of repairs is one of the keys to maintaining a high net profit and perhaps the easiest place to start. This topic and many others are covered in a newly published book entitled *Amusement Machines: Your Route to Success*, authored by McNicholas and which sells for $19.95 plus $2.50 for postage and handling. It is a manual written for the industry by an experienced independent operator. In it you will learn about the basic operation of an amusement route from the very beginning steps. It points out the pitfalls and shows how to avoid them.

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Minoru Arakawa

Nintendo in America:

Climbing into videos market from a new base

by Lee Shearer

Nintendo of America is a relative newcomer to the video game marketing wars of the United States. It entered the market with a big splash, though, when it introduced its hit game *Donkey Kong* in the Fall of 1981. By the end of the year, Nintendo says 25,000 *Donkey Kong* units had been sold in the U.S. market, and the game rapidly went to the number one slot both in the States and in Japan.

In January 1982, Nintendo, a subsidiary of Japan's Nintendo Co. Ltd., began a new phase of its American operations when it opened a small warehouse-assembly plant in Seattle.

There, in 22,000 square feet of leased space, a handful of Nintendo employees now assemble 50 of the 400 *Donkey Kong* games the company averages selling per day in the United States.

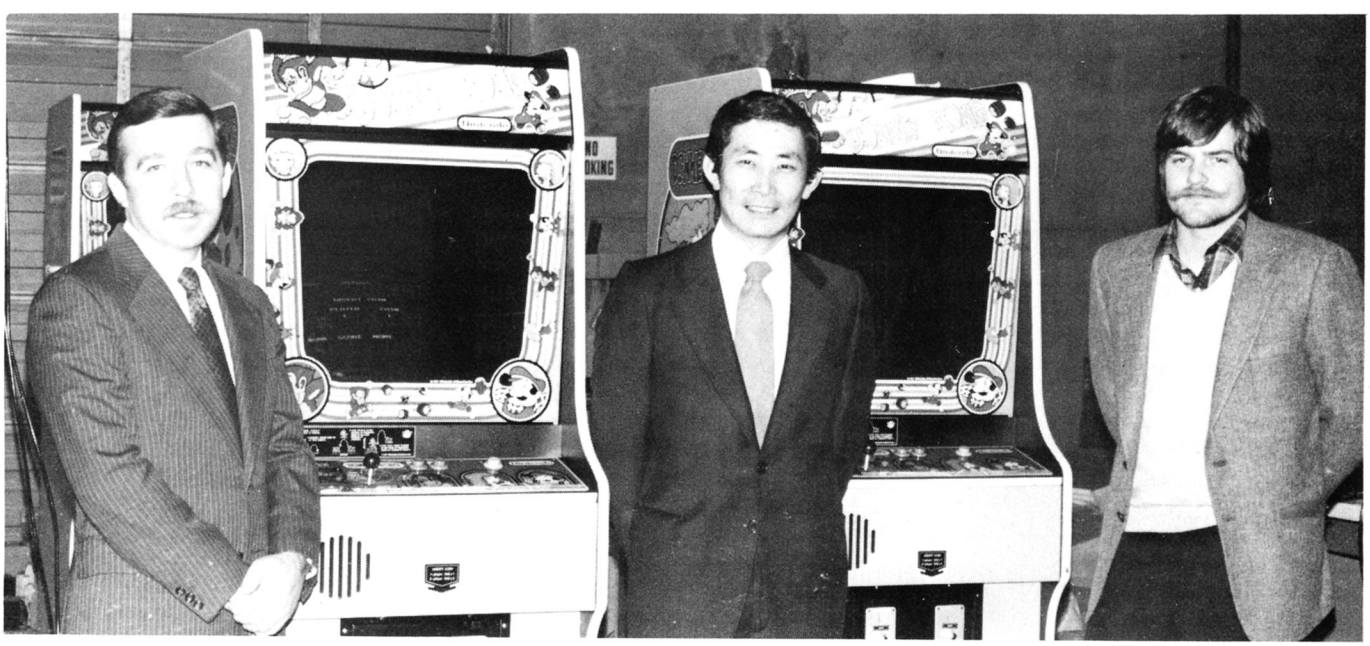
That's just the beginning, though. Scheduled for March, another 30,000 square feet will be added to Nintendo's leased space. By this time next year, the corporation hopes to have completed an 80,000 square foot building in the Seattle area, which will include its parts and service facilities.

Nintendo will move its national headquarters into the Seattle building from its present New York offices, and from it will be coordinated the firm's U.S. marketing campaigns.

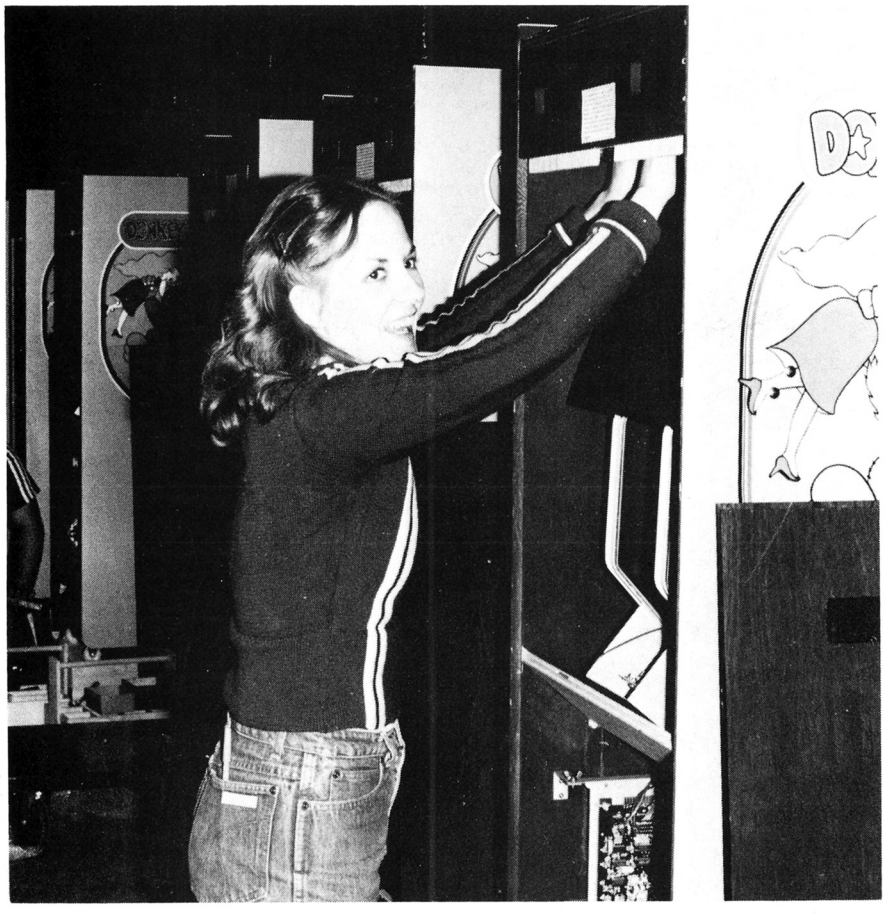
The building will also serve to warehouse Nintendo's coin-op video games destined for the U.S. market, along with other products the company will market here, and will be an assembly plant capable of turning out up to 300 video games per eight hour shift, company officials say. With an eye to the future, the building will be designed to permit easy expansion, if more space becomes needed.

Nintendo, it would seem, is primed to begin American operations in a big way. It has taken a little time, but now Nintendo also has a network of about 80 distributors; 95 percent of *Donkey Kong* sales have been through distributors, according to Ronald Judy, marketing director for Nintendo of America. "We've been slow in developing our network," Judy said, explaining that the company wanted to be selective in its choices.

The company will also introduce as many as four new coin-op video games next year—some of which will be very different from anything now on the market, according to Minoru Arakawa, president of Nintendo of



On the Nintendo team: (left to right) Marketing Director Ron Judy, President Arakawa, and Production Manager Donald James, in Seattle plant.



Is this Nintendo worker putting 'the woman's touch' in the game that has hit wide popularity with players?

The company began as a printer of playing cards, but as times changed, it went with the wave of high-tech games.

America.

Arakawa would not specify just what those differences will be, pleading ignorance rather than a desire to keep secrets. According to Arakawa and Judy, though, the new and patented features will involve faster electronic processing, heightened 3-D and other display effects, and a larger computer memory capacity.

Nintendo has plans in other areas as well. Shortly, the company will begin U.S. sales of its line of hand-held video games, which sell for about $27 in Japan. The firm may also begin marketing its home video games in this country. "We are thinking of home video, but we have no particular plan yet," Arakawa said.

All this might seem ambitious for a new company, but then Nintendo is no new company. It's just new to the United States.

Nintendo was founded in 1889 by Fusajiro Yamauchi, whose grandson, Hiroshi Yamauchi, is now president of the corporation. In the 93 years since then, it has established itself as a major power in the Japanese amusement industry.

The company began as a manufacturer of playing cards, but as times have changed, so has Nintendo. Its products now include those already mentioned, as well as other large arcade-type games big enough to fill a lane of a bowling alley. (No coincidence, since some Nintendo games were designed for bowling alleys before bowling lost popularity in Japan.)

In Japan, Nintendo is a formidable competitor in the amusement business. According to Arakawa, Nintendo manufactures 95 percent of the playing cards sold in Japan, 60 percent of the hand-held video games sold, 50 percent of the coin-operated video games, and a commanding 85 percent of the home video games.

According to Arakawa, Nintendo will take a cautious approach to marketing video games here, and will put on the market only those that survive the corporation's lengthy testing process.

Games are developed by 50 employees in three research and development teams, then tested 12 weeks before test marketing. "We are fortunate to be able to take that attitude," Arakawa admitted.

But it seems a safe bet, based on Nintendo's Japanese record, that it will be successful in carving out a slice of the U.S. coin-op video market for itself. •

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A more challenging version of the well-known Pac-Man maze game, Ms. Pac-Man is sure to be the most popular girl in the game world.

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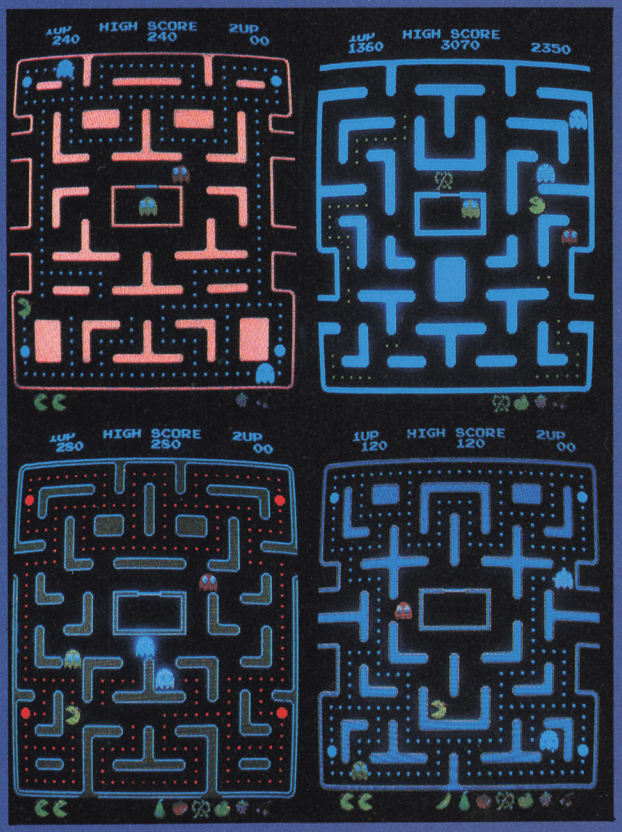
Dots score 10 points each with Power Dots serving 50 points each. Points double for each ghost Ms. Pac-Man munches. 200 points for the first, 400 for the second and 800 and 1600 points consecutively for the third and fourth ghosts. When Ms. Pac-Man is caught herself, she dramatically swoons and falls.



As in Pac-Man, bonus fruit symbols indicate how many times a player ha cleared the screen of dots. Ms. Pac-M boasts additional bonus fruit symbol that also float freely through the ma and have higher point values when gobbled.

100 points

200 points

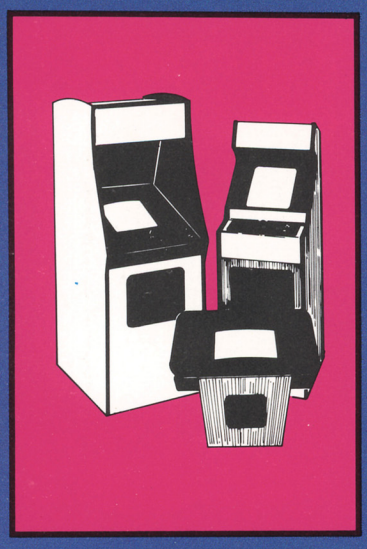
500 points

700 points

1,000 points

2,000 points

5,000 points



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Mini-Myte—Height 60 3/16," Width 19½," Depth 23⅞"

Cocktail—Height 29," Width 32," Depth 22"

Warning—Midway Mfg. Co. intends to assert its copyright and trademark rights in this game against any infringements.

Along with a new sound package players may witness the touching love story of Ms. Pac-Man's meeting Pac-Man himself, their courtship and marriage and even the delivery of Pac-Baby™ in the three act, between-maze cartoon series.

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Hand-held games and coin-op videos boost Nintendo Co. Ltd. in Japan

Business results of Nintendo in its home economy are swinging sharply upward in the current accounting year, *The Japan Economic Journal* reported recently. Pre-tax recurring profit for 1982 was projected at 10.8 billion yen, a 270 percent increase for Nintendo over the previous term, a growth which the economic newspaper attributed to heavy sales (2.5 million units) of the *Game & Watch* home video marketed by the Kyoto-based firm—and to brisk exporting of the coin-op video *Donkey Kong*, mainly to the U.S. operating market. *Donkey Kong* production in the U.S. has topped 35,000, according to a spokesman in Seattle.

Exports from Nintendo's home base were also rising sharply in Southeast Asia and Mideast markets, reported *The Japan Economic Journal*. The company reportedly expects its sales by the end of the current fiscal year next August to reach 46 billion yen and its per-share earnings around 110 yen, compared to 53 yen for the preceding year.

In fiscal mid-year, Nintendo was expected in February to score 6.8 billion yen in pre-tax profit on sales of 27 billion yen. Pre-tax profit rose 490 percent and sales 240 percent, both more sizeable than expected, *The Japan Economic Journal* reported on February 9.

American production of games by manufacturers such as Nintendo was attributed to "license contracts concluded by many of the Japanese makers in the past (being) extremely disadvantageous to the makers." Nintendo itself was planning to test new games on the U.S. coin-op market as soon as they were developed in Japan—a departure from the usual lag time after Japanese development and licensing to American firms.

The Japanese business paper said Nintendo plans to ship two new games to the United States in May. Marketing officers at the manufacturer's Seattle base confirmed plans that the new coin-op videos will be debuted to the market at the Amusement Operator's Expo in Chicago, March 26—28, and will be in the distribution pipeline in later spring.

Contributing to Nintendo's earnings record, said *The Japan Economic Journal*, were "the effects of production increase, exchange gain due to the yen's depreciation, and improving financial accounts."

For its stockholders, Nintendo reportedly intends to keep its dividend for the current term unchanged at 10 yen and plans to boost its capital by 10 percent by free-share offering in February and August.

The Tokyo publication notes in passing that home videos, "because of their high prices, have not become so popular in Japan" as the consumer sets have now in the American market.

#1 in Pac-Man Sales in 1981

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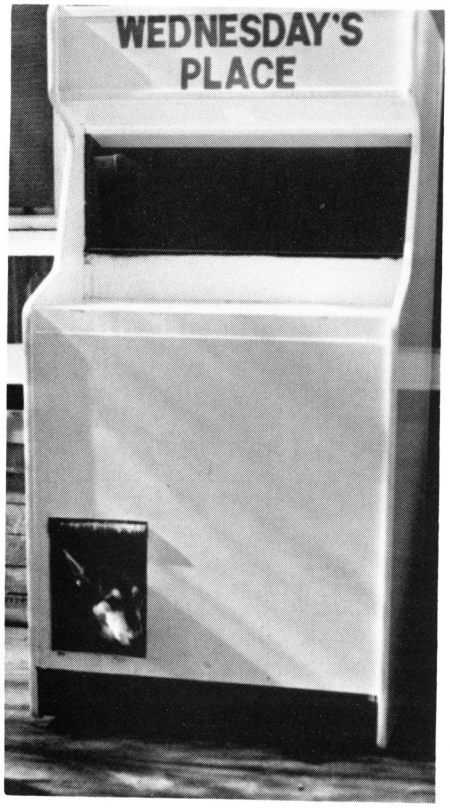

Videos go to the dogs

by C. C. Halfhaven

DATELINE: Lake Dallas, Texas — In the face of public attacks against the coin-op industry, one coy operator here has taken the bull by the horns and has shown what "good old Lone Star ingenuity" can do with the problem, and he's made a few bucks on the side, to boot.

Gene Kibbitz, of Kib's Distributing & Laundry/Lake Dallas, told *Play Meter* that the whole thing started when he found himself with "turkey videos," as he put it. Actually, they were upright *Hopscotch* machines by Nite-Flight Manufacturing, of which he had bought a carload from his shiftless brother-in-law Josephus. After two weeks on location, the vids had taken in a total of 73 cents, two bus tokens, and a stick of Juicy Fruit gum. In addition, Kibbitz was forced to pay one location owner $150 for damage to the carpet of a barroom due to motor oil which had somehow leaked from the cabinet.

Faced with an obvious cash flow problem, and unable to locate the brother-in-law for a good browbeating, Gene called every distributorship in the southwest trying to sell the Nite-Flights at any price. When he finally found one distrib who didn't respond with gales of laughter when he mentioned *Hopscotches*, he struck what he thought was a bargain with this distributor (who shall remain nameless*)—$400 per machine.

Gene grabbed at the deal, and packed up his dozen *Hopscotch* machines (minus one, which sort of dissolved, the glue of the cabinet having come unstuck) to ship to the distrib.

A week later, Kibbitz got a phone

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call from the dealer, who wanted to know, "Where's my check?"

"What check?" allowed Gene. "You were going to give me $400 per machine I sent you. That's at least $4,000 you owe me!"

Calmly the distributor restated the terms of the deal they had made (and he had a tape of the phone conversation to prove it) that Gene would pay the distrib the freight charges plus a commission to take the Nite-Flights off his hands. "They're a drug on the market!" said the handler.

Sadder but wiser, Gene agreed to pay to get the dead-weight videos back again, and he pondered how to make something less of a loss out of the whole thing.

Stuck for an idea, Gene was disassembling one of the turkeys one day, taking out the works and about to make a planter of the cabinet for his wife, while he was watching the new on TV. Lo and behold, City Councilman Hoss Barnstable was being interviewed by the new boys, and Hoss was allowing how he had discovered "*Pac-Man* games make $6 billion a year, and it's time the county got a little revenue from the suckers."

A bleak picture was turning darker. Barnstable was proposing a $1,000 annual revenue level on every video machine in the country! And it looked like the major and city council would go along with the idea, mercenary gentlemen that they are. Gene was about to start weeping, when his pup dog, "Wednesday," came over and licked him on the hand.

Wednesday's kiss set Gene's mental gears in motion. He ditched the plans for a planter and started carpeting the video cabinet. As Wednesday looked on, Gene painted over the bright graphics, and in a short time he had made a respectable doghouse out of the cabinet.

To make a long story longer, the news fellows hopped on the bandwagon, and passing Gene's house one day they shot film of Wednesday's doghouse, made of an obvious video cabinet.

The TV crew made light of Wednesday's place on the evening news, using their film footage at 11 as a counterpoint to a story about the rising popularity of video games.

But the story has a happy ending. The local animal shelter people saw the TV news spot and put their heads together. It was decided that the dimensions of a video cabinet make the perfect environment for the average canine: It has the height to give it the air a dog needs for placid sleep, it protects him from harm, it is warm in the winter, and so forth.

So the video doghouse became the talk of Lake Dallas. And not only Gene with his turkey videos, but every operator within a light year was able to turn used video cabinets into a doghouse, with remarkable sales results.

However, Mrs. Kibbitz is still hounding Gene to make her a planter box. •

Our thanks go out to operator Jon Kingston, Kingston Sales, Lake Dallas, Texas, who supplied the photograph (left). Jon said he felt that there are Play Meter *readers who may also "have a few dogs lying around, and here's just one idea for making use of the cabinet. Once the parts are stripped for swapping, the box could also make a nice aquarium, kids' playhouse, a bird cage, or maybe a stereo cabinet." Reporter Halfhaven adds that he plans to make himself a "mini-den" of an old cabinet, to which he can retreat to read, whenever his mate Eversharpe is nagging him.* —*ed.*

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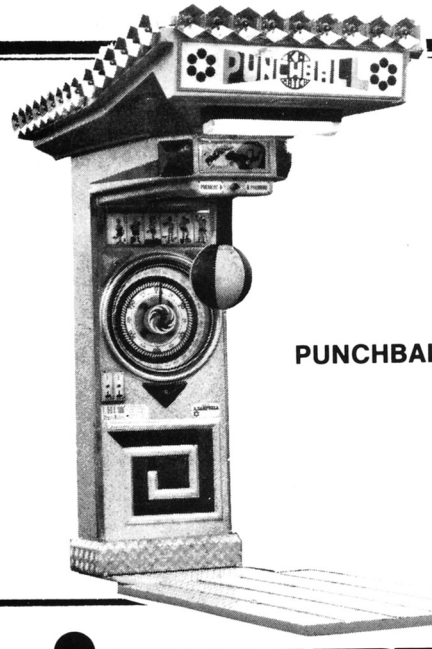

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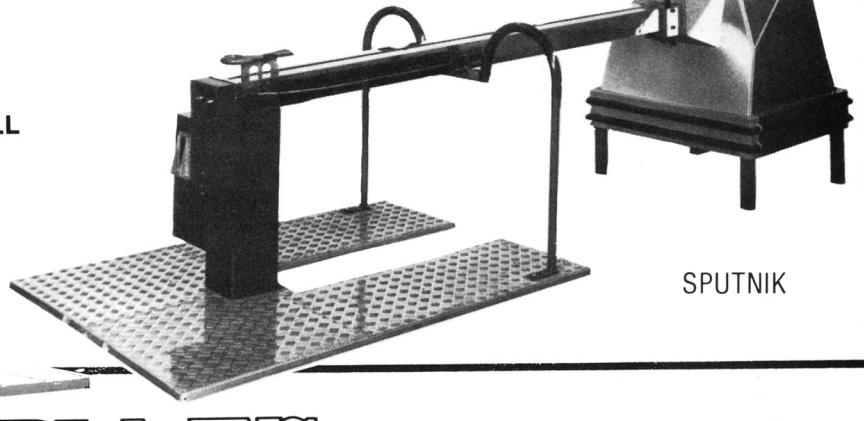

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Today's 'Chief Gripes' of Operating

Game hardware documentation

by Jay Hanna

When an investor is willing to spend $2,500 to $3,000 dollars to purchase a new game he should be guaranteed service. In many cases he isn't. This investor is taking a chance on a new product which may or may not be the one that earns "Big Bucks." In return for the buyer's risk, he should receive a reliable, well-documented piece of equipment. Why isn't this happening?

I feel the primary reasons for this failure are:

1. The manufacturer's desire to cut costs. Not every game is a big winner for the manufacturer either. Should the manufacturer be required to provide documentation for a loser if they'll only be building a limited number (hopefully) of these pieces?

2. Research and Development departments for any manufacturer want to develop a good product but not a perfect product. If they were to design a universal system, might not management want to cut costs by cutting payroll in that department?

3. Fear of piracy: If every new game is fully documented with schematics and a theory of operation, wouldn't this make it easier for the pirates to steal the game?

While these are all valid reasons for the manufacturer to change an individual game's hardware and omit extensive documentation which is necessary for prompt and reliable service on a game—isn't there a solution which could benefit the manufacturer, distributor, operator, and technician?

Cut everyone's costs

If the engineering departments of the major manufacturers were to attempt to design a modular (one separate board) universal power supply, a universal CPU board, RAM board, and sound board which would be identical for the next ten or twenty games that would be produced, everyone would benefit.

The manufacturer's R&D costs for later games would be significantly reduced. The loss on a bad game could be minimized since the boards could be used in a later game. Parts and board inventory for the manufacturer and distributor would also be reduced. The operator could use an older game, which produces less income, as a temporary parts source to repair the new "hot" game which breaks on a weekend. The technician wouldn't have to learn how to repair a completely different set of boards from the same manufacturer for each successive game.

However, what is to be done about piracy? It seems to me that each major manufacturer should have in its employ an engineer who could design a "black box" which could decode a previously encoded set of ROMS. This black box could be changed from game to game as long as some form of self-test documentation for this unit is provided, either in the firm-ware (ROMS/PROMS) of the game itself or through signature analyses. Think about it!

Ed. Note: Jay Hanna is owner of Antares Game Repair Service Company, Denver. He was a speaker in Amusement Operators Expo 1981 seminars and will hold a technical session in the March 1982 AOE in Chicago.

More efficiency: It makes cents

by Burt Weiss

I feel like Andy Rooney on the CBS "60 Minutes" program. I am constantly bugged by the little things in life that don't make sense. For example, every time I watch a weather report and they say 70% chance of showers, I say to myself: "Self. Does that mean 70% chance of showers on 100% of the area or 100% chance of showers on 70% of the area or 70% chance on 70% of the area?" By the way, don't feel sorry for the weather tyrants. I don't know too many businessmen who can make a living being wrong as often.

Now I've only been in the coin acceptor business a short time, but I've already run into another case of verbal tongue-twisting that parallels the weather tyrants. Did you ever wonder what 95% slug rejection means? Well, I want to tell you that I have not found any official definition that I would accept on a scientific basis. One of the rules could be: "If my competitor is not as good as I am and he claims 95%, then I must be 98%." Another possibility is: "Let me pick the slugs and I'll predict the performance."

My advice to users is simple. It's easy to find out if a coin acceptor takes slugs that bother you. Put one in your worst location and find out. After all, how did you find slugs in the first place?

Now I want to answer another question that "makes cents." If electronic acceptors are so good, why don't more manufacturers use them? A simple lesson in economics is the answer. In a competitive market, will a manufacturer knowingly increase his cost without the financial rewards? Obviously, it is the operator who benefits most from a better coin acceptor, not the manufacturer.

Another interesting point: If you are an operator, do you know how much it costs you to solve a coin jam problem? Is there a man on site? Do you have to send a truck? Studies to which I've been exposed indicate a wide range of costs. If you're an operator and you talk to other operators,

you quickly learn that the total cost is $30, $35, or up for a remote location. Don't forget there's lost revenue any time your machines are down. Excuse me, how could you forget? If you're one of those who believe you get people, gas, and trucks for nothing, you won't believe anything else I say either.

As the video game market shifts from a seller's to a buyer's market, I see a lot of potential changes possible which will benefit the operator. As a clone of Andy Rooney's view on the world, I would like to give away an idea. Why doesn't someone produce a game with a guaranteed minimum time of play for the price you pay? This encourages the people with less skill to become better while the better players who don't need it aren't affected.

If this doesn't sound reasonable, I'd like to point out that *Pac-Man* is popular in part because it's not too hard.

The idea of timed play is easy to implement in any electronically controlled game. In pinball, the player whose balls zoom to the bottom of the playfield because they are spastic when it comes to flippers, gets a little psychological encouragement if an extra ball is given in a game where the time limit has not been reached. The additional play does not interfere with the reward for a good player because it's at the other end of the spectrum.

Oh, by the way. If the idea is no good, forget my name. If it is, send commission checks to my home address. •

About the author: Burt Weiss, vice president/marketing of Third Wave Electronics, Inc., Ft. Lauderdale, claims he found his present job by accident (sitting next to someone on a plane) and has fallen in love with his new-found industry. His background is with the missle range and, later, commercial computer system fields, and he has quickly adapted to his new environment. A self-professed workaholic, he believes in "the grassroots philosophy of being where the action is," and therefore is rarely found behind his desk. To quote Burt: "If you're going to work hard you might as well have fun doing it."

Make your gripes known

by Paul Thiele

The only thing more annoying than a video-game manufacturer that uses easy-to-cheat coin doors in its games is an entire industry that uses these doors.

I'm referring to any front door that makes no provision for adding string-cutters or antipenny devices, or that allows penny-flipping through the coin returns.

The industry has used a variety of front doors in video games, the best of which have been pinball doors. These doors are more difficult to cheat than any other video door because rejected coins from either of two mechanisms fall through a channel into a single coin-return cup.

No built-for-video door has ever included this design feature, which eliminates penny-flipping. And, incidentally, no pinball door has ever used plastic for integral parts, either inside or outside.

Some operators might wonder why their video-game doors suffer jammed coin-return buttons and broken external parts, while their pinball doors always look fine. One reason, aside from violent abuse, is that when kids run out of money they push reject buttons and stick their fingers in the coin-return cups to find unclaimed quarters. When they do this on a pinball door, no real harm is done. On some video-game doors, this practice sometimes leads to disaster—a service call, at least.

The only abuse I have observed on recent pinball doors is the trick of blowing water through a straw into the coin slot to short out the coin switch (fixable by coating the wire terminals with silicon cement).

The design of pinball doors has remained substantially unchanged since the 1980s. Ironically, some current video-game doors are designed the same as pinball doors before the '60s, with the mechanisms side-mounted to the door, and a return cup for each mech. The style previous to this was the nickel push-chute.

Really, there's nothing so bad with the pre-'60s design if the necessary anticheat features are included. It's just that modern pinball doors do not require all the add-on options (string-cutters are fastened to the coin mech, not the door).

So far in the 1980s, it appears that some video-game factories are trying several different methods of improving their front doors. This seems to be a sign that they are listening, and aware of the problem.

At the same time, other firms are abandoning the sturdy doors that made their games the least cheatable in order to provide an "industrywide standardized door," or in other words, to cut their manufacturing costs the way most of the other companies have.

How to retaliate?

So how should operators deal with the problem of front-door cheating, and help rid the industry of inferior coin accepting/rejecting systems?

• Should they apply a pressure-sensitive decal on each door that reads, "$1000 fine or one year imprisonment or *both* is the penalty for

An invitation to Gripe...

Play Meter *is open to operators' written contributions to this series, with the hope that exposition of industry problems today, from the operating standpoint, will advance their correction. Subject matter should state a perceived problem and then* give a practical solution that could be undertaken to solve the problem, as the operator sees it.

Please take an overview of problem areas, not one particular game's failings, for instance. Problems may be technical/mechanical in nature, however, or it could be the Government, the players, the landlord...or any common problem area that most annoyingly presents itself to operators. No subject is taboo, but content should be within the bounds of good taste and not consisting of personal attacks on character or reputation.

Decision of the editors is final, since we wish to avoid repetition and to explore as many different areas of the operating business as possible. All submissions will be fully considered. To be considered, writers should submit "Chief Gripes" at no more than six double-spaced typewritten pages in length. Address: Play Meter, *P.O. Box 24170, New Orleans, LA 70184.‡*

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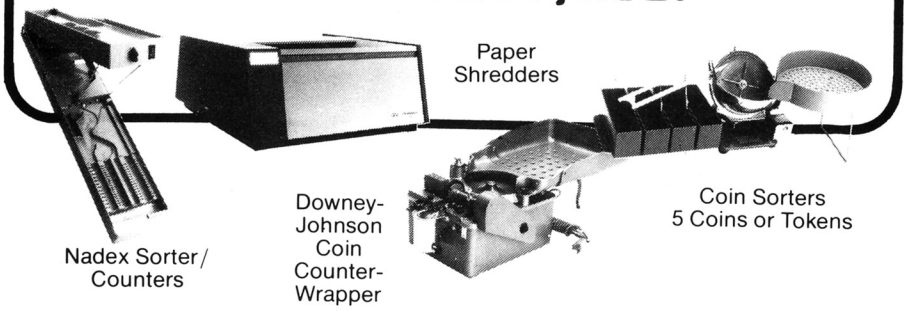

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using slugs in this machine (Criminal Code Sec. 167 USA)"? No. The kids of today know almost as much about the law as ways to disobey it. Neither a strung-up quarter nor a penny are slugs by definition. Thus, such a sticker would be of no help.

• Should they modify their logic boards to handle multiple coins-per-play, thereby making the way for penny mechs in the front door? (That way the games could give a credit after 25 pennies are deposited, either through the coin slot or the coin return. If one of the pennies didn't register, a refund could be given with less financial impact on operator and location.) No, this would require the location to keep thousands of pennies on hand, which might prove impractical.

• Should they express their dissatisfaction to the manufacturers, trade publications, and each other; become aware consumers? That's more like it!

How many operators take the time to fill out the business-reply postcards provided in the shipping packet of a brand-new game? If every operator wrote his gripes—any and all—about the shortcomings of the new equipment, the manufacturers might start listening.

Operators should keep manufacturers' toll-free numbers handy and call them when a problem arises, even if it's about a coin door. They should not be ashamed to ask a "stupid question," since many video-game problems arise from stupid design or workmanship.

Before buying a game, do some research on it. Talk to other operators about it. Ask the technicians at your distributor if the game has inherent problems, or needs any modifications. Go to the game centers, or any location, and see which games are performing and holding up the best. Keep up with trade publications and read everything printed about new equipment, including advertising and brochures.

Something many operators don't seem to consider is that they could buy new games the way they buy cars, washing machines, or TV sets. That is, buying the products they believe are built the best.

With such a wide assortment of games and manufacturers in the market, operators should not feel forced to buy a game they think is manufactured poorly. There is definitely a place for consumer loyalty in the coin-op industry, as much as there is a place for sturdily built games that are difficult to cheat. •

coin of vantage

Technical review geared for the operator who does not repair his own logic boards on location.

by Paul Thiele

Brushing-up on Gottlieb pins

D. Gottlieb, trusting that pinball is *not* dead, held its service schools on 'System 80' games such as its new *Haunted House* pinball

It's always nice to see an amusement game manufacturer do something for the operator that it really doesn't have to do. I'm referring to the Gottlieb Amusement Games service schools held around the country recently. The purpose was to explain the innovations and features of the company's "System 80" games.

During the introduction of solid-state circuitry into pinball in 1977, these schools were a must. The factories never could have made the changeover successfully without a concerted effort to educate operators about the new technology.

In my career travels I've witnessed three major technology changeovers. In the newspaper business, it was the conversion from "hot type" (the process of setting all type in lead) to "cold type" (using photo typesetters that spit out printed paper for offset printing process). In the teletype business the change was from paper-tape punchers that printed 100 words per minute, to a system of CRTs that feed data into magnetic-tape recorders and 1200-word-per-minute printers.

In both these changeovers, the technical instructors were patient, explicit, and friendly, but the new methods were received by some of the staff with skepticism, wariness, and downright resistance in certain cases.

In the coin industry, those operators who stepped on the showroom floors to see *Evel Knievel*, *Hot Tips*, *Stars*, and *Cleopatra*, undoubtedly felt some of the same emotions when the solid-state pinball revolution began.

But, not a moment too soon, the manufacturers sent a blitz of technicians around the country to explain these games to puzzled operators. The service schools I attended at that time were all excellent, and the instructors seemed genuinely interested that everyone understood what was being taught.

Most of these operators went on to buy the new electronic pins, and with the backup of toll-free numbers to the manufacturer service departments, or with a call to the local distributors' technician, most problems could be repaired on location.

Those operators who resisted the changeover to electronic pins probably ended up buying only video games, which might have coined an industry proverb, "Ignorance is bliss—and profitable, too."

Apparently hoping that pinball is not dead, Gottlieb this year decided to prod operator interest in its product by explaining "System 80" as used in *Haunted House*, the firm's latest pin.

The game's salient feature is a three-level playfield. Other qualities making it a pinball of note include its semi-wide body, fantastic ball speed, and excellent graphics.

Refresher for operators

The reason Gottlieb really didn't have to conduct this seminar is because the system already had been in use almost two years, and troubleshooting it is not markedly different from the system as originally introduced.

However, Abi Carmen, Gottlieb's service engineer, did a good job of refreshing operators on service procedures and noting innovations by

the firm at his Los Angeles seminar, cosponsored by Betson Pacific Distributing Co.

Carmen called attention to Gottlieb's use of dedicated pop bumper boards—separate boards for each bumper—which eliminate the control board from the bumping process, and send a constant pulse to energize the bumper solenoid regardless of how long the switch is closed. In theory, this protects the solenoid because if the switch stays closed, the original pulse is used up and the solenoid won't work until the switch is opened and closed again.

Minor changes have been made on the self-test, which Carmen recommends that operators use as often as possible to locate problems. Gottlieb's self-test returns to the attract mode after 60 seconds on any step, unless the test is extended by pressing the credit button.

During the switch test, the corresponding numbers of stuck switches flash on the displays in sequence, instead of one at a time, so the repairman instantly knows how many switches are stuck, instead of fixing one and then seeing another flash on the display.

I did say the changes were minor.

One saying that Carmen repeated several times during the seminar, regarding broken or burned-out parts of a game, was: "Throw it away and go buy another," which to me intimated that you shouldn't try to plug along with faulty parts as some pin operators seem to do. Those operators, however, do seem to apply Carmen's advice when it comes time to clean a game.

Seventh digit?

I sensed a Gottlieb sore spot when the topic of seven-digit score displays was mentioned. Carmen said pinball critic Roger Sharpe's constant harping on the firm to add the seventh digit was mainly responsible for the planned introduction of new score displays in future pins. He said this decision would cost the company a few million dollars, and he doesn't believe the typical player cares very much when the score goes over a million.

That brings up the question, What good are the high-score-to-date features if the highest scores are nullified because the player is "too good"? As has been the case since Gottlieb began making solid-state games, I think the company simply is the last one on the boat to adopt a popular play feature.

The entire seven-digit controversy is unnecessary, anyway. Does anybody out there realize that every modern pinball display has a "dummy digit" that always reads zero? I've always wondered what the purpose of that digit was, aside from creating score inflation. Carmen said Gottlieb was the first pin company to use this feature, which was introduced in the mechanical era.

How ironic. It seems that if Gottlieb is so concerned about those millions of dollars, it could make use of this idle digit and revive the memorable "units unit" of the mechanical era. And for this reason, I hope Carmen isn't going around the country criticizing Sharpe and other players who can't understand this recurring weakness in Gottlieb games. •

Coin of vantage: "a position advantageous for action or observation." Columnist Paul Thiele has been in the amusement game business for more than four years, formerly working as a journalist and editor. He provides service for other operators in Southern California. —*ed.*

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FRANK'S CRANKS

SPECIAL:
by Frank Seninsky

A visit to the Bally plant

It's every crank's dream to be in Chicago on a cold, snowy day attending a national college entertainment convention. Finding myself with a free day, it was instinctive that I give a friend, Paul Calamari, Bally's vice president of sales, a call to request a visit to the Bally plant in Bensenville, Illinois.

I was greeted by Paul; Arnie Arnstead, field service manager; Norm Clark, vice president/design engineering; Chuck Farmer, the president of the Pinball Division and Domestic Distribution; and Ed Schmidt, marketing service manager. Arnie volunteered to guide me on a grand tour of the division.

Officially called "Bally Pinball Division," this facility spans 180,000 square feet and employs approximately 1000 workers. Here Bally turns out 200 pinball games and 200 video games every working day. Due to the large demand of video games produced by the Bally-owned Midway Manufacturing Company (*Pac-Man, Galaga, Ms Pac Man...*), and a somewhat less demand for pinballs, it was a logical choice to assemble some video games here in Bensenville. On this day the pinball game *Vector* and video *Galaga* were "on line."

The first part of the tour was conducted in the design engineers' cubicles. On the drawing boards (drafting boards) were futuristic pinball cabinet designs, candidates for new pinball backglasses and rows of "white boards." The white boards are pinball playfields with no design or colors but just playfield hardware (roll overs, pop bumpers, kickers, and flippers). The engineers move the hardware around and develop a game theme. From these model boards come the final finished playfield layouts. Bally designers have had great success in the past as evidenced with such themes as *8 Ball Deluxe* and *Centaur*.

The second area was the "life test" room. In this room engineers conduct flex-cycle tests on all blade switches and hardware. As an example, the flipper end-of-stroke switches are put through more than five million flex-cycles before most of them break. Other pinball hardware such as springs, pop bumper rings, coil stops and brackets, flipper shafts, etc. are put through compression, tension, and torsion tests.

There is also this little guy named Gus who just walks around hitting everything with his little hammer and smashing everything in sight. I asked him to spend some time hitting the flipper coil-stop brackets because the screws shear off easily. He said Bally is aware of this problem and will be upgrading the screw shear strength for those screws used in heavy vibration areas. He also reported that his brother, Morris, is now a screen star with Nintendo with a major supporting role in the production *Donkey Kong*. It is rumored that both Gus and Morris got their hammers from their grandfather Irving who helped design the first "striker" game.

Next came a walk through the entire assembly area. The pinball section consists of three separate runs: the cabinet, the playfield, and the lightbox. Let's start with the cabinet run.

The cabinets come to the plant from Lenc-Smith in Cicero, Illinois, which also is Bally owned. Some of the *Vector* cabinets were put aside and modified with a National Rejectors Industries Dollar Bill Acceptor on one side of the "coin door" and a regular quarter acceptor on the

Sub-assembly area in the Bally Bensenville plant: Talent and patience are job requirements.

other side. The bill acceptor should add about $400 to the cost of the game if it proves profitable. I would hope that it would be incorporated into a video game in the near future also. This may be the answer to the operator's problems of supplying change to locations where there aren't enough machines or space to warrant the purchase of a dollar change machine.

I found the assembling of the playfields to be the most interesting. The playfields arrive at the plant already "screened" (painted and baked) by Ad Poster of Chicago. Ad Poster also does the screening for most of the other pinball manufacturers. In the first step, the playfields are placed in a board hole spotter which is a two-sided press (just like the kind used in pressing clothes) that has nails on each side. These nails have been strategically placed (like cities on a road map) and when the press is closed, the nails make marks on both sides of the playfield where screws, rails, and hardware will be located.

The second step is to secure the hardware onto the playfield. At this stage, all necessary holes are drilled in the playfield. This is done in assembly line fashion where each stage is attached in a logical predetermined order.

Before the remaining hardware can be attached, the wire harnesses must be attached to the playfield. Making these wire harness bundles is, in itself, a separate step. About a dozen plywood boards are set up with large nails placed in them. Wires are cut to go from nail to nail according to the color code, gauge, and length instructions on each wire board. The people whose job it is to lay out these boards are more concerned with keeping the wires orderly and out of the way of the hardware rather than figuring out paths that will minimize the total lengths of wires used on each game. Still, it takes quite a bit of talent to devise these nail boards efficiently.

After the wires are placed on the nail board they are wrapped together with cable ties that are attached with either an air or electrical gun. The wire ends are then cut evenly and each wire is stripped by taking off about 1/4 inch of insulation. Each wire end then goes through a "double dip" process which consists of a first dip into a rosen flux and a second dip into "solder pot." The rosen flux keeps the wire ends in a neat stand making it easier to solder or crimp to a terminal. The solder pot is a 60/40 ratio of tin/lead. (It used to be 50/50 just like commission splits are supposed to be).

Next the terminal ends are crimped onto the ends of each wire that goes into a plug connector. This is done by holding the wire end on a terminal as a machine bends the terminal edges over the end of the wire. The wires are then plugged by hand into the female and male plug connectors. Bally also uses insulation displacement connectors. With this method, a gun presses a wire into a connector. The connector makes contact with four areas of each wire. This method eliminates the stripping, double dipping, and terminal connecting steps. When a harness is completed, the whole harness is put on a machine called a "continuity-comparison tester." This tests for shorts, opens and reverses. A reverse would be a wire that was put into the wrong plug connector position; 95 percent of the wiring problems are eliminated by this step.

The lightboxes are wired in the same way as the playfields. The boards are tested in the "Industrial Inspection" section. The boards that pass this initial inspection are placed into "burn-in boxes" and placed in self-test mode for a period of 24

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hours.

Burn-in boxes look just like the pinball lightboxes. Approximately 500 board sets and displays can be tested each day. This thermo-cycling procedure is presently an all-visual method. The "fall out rate" after the 24 hour period is approximately five percent. Out in the field it is my guess that there is another fall out rate of about two to three percent within the next two weeks of operation. This is also taking into account that the games could be assembled incorrectly in the field and could be damaged during shipping. Bally engineers say they feel that the burn-in boxes help reduce downtime of their games greatly.

When the three sections are completed and tested the lightboxes are placed on the cabinet base and the playfield is placed into the cabinet. Each game then is placed on a roller line (without the legs) and is tested. Any game that doesn't work properly is pulled off the roller line and is fixed by the roving technicians.

Each machine is then checked to see if it will operate under low voltage conditions. Bally tests the games for as low as 102 volts AC. This is a great idea since there are many times that the games will be placed in locations where low voltage is present.

The final step is the crating of the games for shipment to the distributors.

There is also a game room where visitors can play the games. Some Bally "antiques" are on display in excellent working order: *Feet*, *Signal*, *Pennant*, and *Spinner* should bring back some memories. (As a trivia question: What was the first Bally digital pinball game made? The answer is *Boomerang*. Only one was made.)

After seeing the "Bally Pinball Division," I can answer some questions I had concerning service problems on Bally pins. The guide rails that are pressed into the playfield often vibrate out and are difficult to keep in position. I have been using nails, glue, and bending the ends of the rails in hopes that they will remain in the holes. Arnie Arnstead assured me that he will devise a new type of rail that has rough edges at the end sections so they will not come loose.

I also learned the correct way to check if the battery on the MPU board (microprocessor unit) is charged. The game should be turned off for at least one-half hour and the voltage should measure 3.2 volts DC. If the voltage is less, then the battery should be replaced. The symptoms of a low battery are loss of bookkeeping functions and loss of replay or add-a-ball score levels.

The small auxiliary boards, "solenoid expander boards," that Bally now uses in its pinball games have been the culprit of some annoying problems. The realiability of the MOC3011 chip that is used on the board is questionable. The problem is that the 3011 (as it is commonly called) will under certain conditions, not draw enough current to keep the SCR (silicone controlled rectifier) alive. Bally has installed a dummy load by using a General Electric 555 bulb which helps cure these borderline problems. The only problem is that these 555 bulbs have been known to burn out. It would be a good idea to hook in a #44 bulb (6 volts) in place of the 555 bulb, and all should be well.

Again I would like to thank the staff at Bally for taking the time to show me the plant and answer many of my questions. If you have any service problems on Bally games, Arnie, Norm, and Ed are available to answer your questions. They can be reached on the Bally Hotline: 800-323-3555. •

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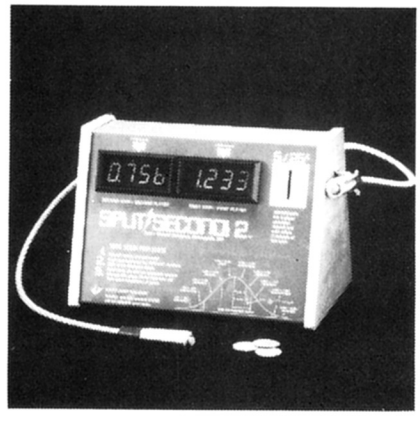

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By Roger C. Sharpe

HAUNTED HOUSE is explored

Three for the price of one

Gottlieb's *Haunted House*

Well, much has been happening with the industry as it gears up for the annual AOE which will be held in Chicago at the end of March. Pinball continues to gain in stature and appeal, helped along by some very solid equipment that is drawing players back to flipper games. And video, which still rules the roost, is undergoing its own changes and news.

On the whole, however, I see video attempting to break out of its present plateau and look to some new equipment that might bring the next frontier. As it stands now, even with earnings still at a good rate, there is a need to get some new concepts into play and end much of the repetition that plagues the games. Where the input will come from and what it will mean are still questions to be answered, but the time has come to make the move ahead.

The efforts of Williams and Gottlieb, which probably have already begun to hit the streets, should be a good barometer of what the public might like as additional variations on a theme. *Hyperball* and *Caveman* will be closely watched for a number of reasons and could usher in a new wave of imitations to capitalize on any interest. Interestingly, these and many more anticipated innovations are expected in the coming months, as 1982 moves ahead as a period of transition and change for the industry not just in terms of equipment but also public acceptance and legal decision making. In terms of forecasts, the feeling by this writer is that the coming months are going to see some important happenings, not the least of which will be the eventual legal questions popping up around the country and in the Supreme Court. (*Play Meter*, April 1, p. 66.)

I believe the legal questions will prove to be a grudging acceptance of the machines in the public domain, but that restrictions will come down as to age of players and locations versus proximity to public schools. It will be a compromise by all and will not hinder the industry, per se, but will tend to prove that the public is watching closely the business practices of local establishments. This projected no-win situation will prove to aid the cause of an independent association that will take on the tasks of promoting and helping the industry, but its impact and ultimate creation are yet to be seen from this viewer.

The games themselves will continue to draw in the money and recognition for at least the rest of this calendar year, but there will be a firming up of those companies who can survive in what will become a tight market as replacement machines become more and more scrutinized by operators and distributors around the country. However, video is just entering into a boom time that should surpass even the last few year's expectations.

This is going to be a double-edged sword, however, since the toy machine industry is going to help the boom when they finally flood the market with hand-helds and counter top versions of arcade successes in the middle of the year. The millions of dollars in publicity is going to be a god-send for the coin-machine business, but it is also going to affect the life cycle of arcade machines which will have knock-offs to compete with. I've always stated that home games can have an impact on arcade games and this year will prove the point because the toy manufacturers are just as greedy as their coin-op counterparts. The only problem in the bucks race this time is that the

toy companies have their act together, as I witnessed at the recent toy fair in New York.

As an example of the impact, although I have eight pinball machines in my home, I still play new pins fairly regularly because I like to, but those games that I own, those specific models, I have always played less frequently once I've had them at home—not other models, mind you, which I still go to, but those games that I can play for free, anytime I want. The same thing, I fear will happen for some long time earners that will feel the pinch. Wait and see.

The thing is, however, if this comes to pass, is that the coin-op games are going to have to continue to get that much better in order to gain their following and result in a possible licensing arrangement that can bring in even more money. So we should see the sweepstakes for the public's money increasing proportionately as time goes by. Through all this, pinball will remain as a very exciting alternative, because it can't be duplicated for the home or any other format and because the games are just getting so damn good, from those companies still willing to stay in the game.

The question is really whether pinball games can keep the ball rolling, but any lingering doubts as to the answer should quickly fall away when one sees this issue's game on review, Gottlieb's *Haunted House*, and maybe more so, the upcoming Bally effort, *Vector*, which offers some interesting play and strong shot possibilities as well as good speech that even tells the player that the machine before him is a "computer" and not a pinball. So don't write off the pinball if you have, because you're going to be in for some surprises, not the least of which is the game at hand.

Gottlieb's *Haunted House*

One company that seems committed to the perpetuation and development of pinball is Gottlieb, which has taken the concept of multi-level to a new dimension by expanding upon the success of *Black Hole* and integrating yet another level of play, that tackles the question of three levels more completely than Bally's *Elektra* which was on view last time around.

PLAYFIELD: The action begins with the ball entering from the plunger onto the top left of the main playfield, where three posts separate a kick-out hole on the right that will propel the ball up to the upper playfield, a middle kick-out hole that will keep the ball on the main field, or a third hole on the left that will drop the ball beneath to the lower playfield.

Taking a look from top to bottom, the upper playfield, which can be reached from the left side kick-out hole on the main playfield, or a right side ramp, features a set of four drop targets on the left and four targets on the far right. There's a thumper bumper in the middle of this area and a regular size flipper on the right, with a small flipper on the left. Both flippers are controlled by an extra set of flipper buttons on the side cabinet, with these as well as the lower playfield flippers controlled from the same set of buttons. Next to the left flipper, which is placed as if it's on the right side to balance off the same type of set up with the right flipper, is a hole that leads down to the lower playfield, that once again offers the inverted action begun with *Black Hole*.

As you look to the lower playfield, from back to front, or the player's version of it, there are two flippers at the "bottom" with a kick-out hole just to the left and behind for getting the ball back up to the main playfield. A thumper bumper is at the right

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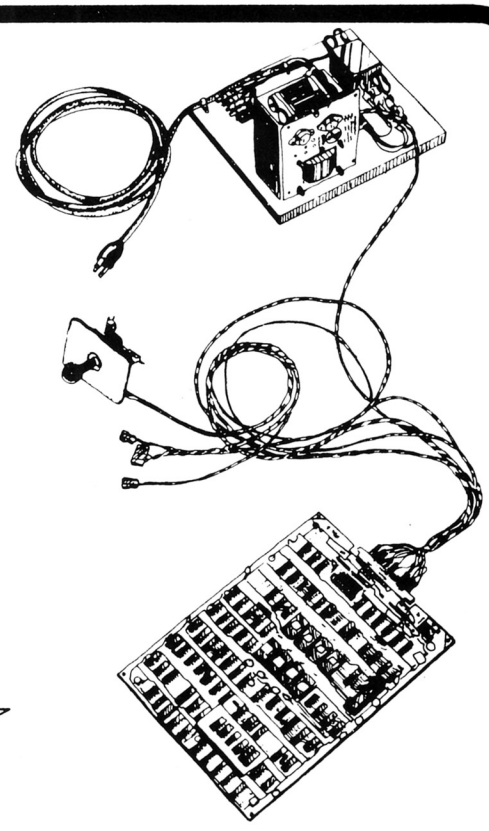

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with a drop target bank of five targets at the left front side of the layout. A little curved nook at the top finishes off the set-up, although there is a gap between the left flipper and the side, which can allow the ball to roll down behind to the kick "up" hole for entry back to the main playfield through a little spot at the top left of the board.

Back up at this point is the major area with the top playfield banking an array of a target (3), what looks like another target, but isn't in the middle of this configuration, that flaps back on contact by the ball and allows entry back down to the lower playfield. To the right of this is another target (4) and to the right of this a small hidden area for getting the upper playfield values doubled (5).

The ramp at the right fronts a farther right side "trap door" for a turnaround and sets the stage for a field that, by necessity, is laid out on the edges to keep the middle clear. Over at the left is a thumper bumper and two targets (1 & 2) further down, while the right side offers some little hidden spots for an extra ball when lit and a short roll down to the first of four flippers. There are two flippers at the right which are separated by a roll-over that will drain the ball, while the left side has a kick-out hole for a special when lit, fronting a roll-down and out or back to the left side flipper that is also tied in with a top left side flipper and kicker set up. And that's the essence of the game design, which does not exclude any of the playfield's levels during play.

ANALYSIS: What can one say here about *Haunted House* except that there's so much going on for those who can keep the ball in play and figure out when to use which flipper buttons. The upper playfield can be a problem here just by the configuration of the flippers which are cross-positioned due to the way they face the field and as a result can be a problem for those who will wind up pressing both flipper buttons in order to keep the ball up in this part of the board.

The lower field really supplies the best array of shots with its drop target bank, while the main field poses a problem for those with less than an accurate touch, since most of the targets and primary areas are far from the flippers at the top and sides. For this reason alone the game can play rather quickly and score low. However, it is a challenge to master, or at least try to master the machine by getting out all the numbered targets on the main playfield, finishing off the upper field drop

target bank more than once, twice, or three times—and finally getting the bank in the lower field down more than once. At this point the values can increase substantially with a multiplier up to 5X.

GRAPHICS: The artwork and sounds on *Haunted House* should take anybody back to the days of the amusement park, or some of the attractions that still stand in seaside locations. It is an effective treatment that bears notice and will catch any player's eye among the rest of the competition.

PLAY: Since there is a uniqueness to *Haunted House*, Gottlieb has sent out the games at 50-cent play for three balls, which might prove to be a mistake because of the difficulty of the machine. What might be better for the machine, if the cashbox doesn't give you what you want or expect, is to try pricing at three balls for a quarter or five balls for fifty cents. These recommendations, either one, should bring you the results you want. Tie them in with limits on three ball play for extra ball areas at 200,000 to start and 700,000 points as the final limit. On free play you can increase these by 100,000 points with no problem. For five ball settings, the limits on extra ball games should be able to handle 400,000 and 800,000 points, while free play could be increased by an additional 100,000 points depending once again on your percentaging and the caliber of your players.

'The colors and sounds should take a player back to old-time arcades. This treatment will divert notice from many competitors.'

PROS & CONS: To view *Haunted House* as anything more than a novelty game is to lose sight of what it's all about. This isn't a knock against the machine, but the realization that three-level playfields are a nice diversion, as done here, but not the answer to pinball's woes. All we need now is to see a rash of imitators as everyone tries to show they can do it too. I don't think this will happen, but there is always that possibility. On the whole, *Black Hole* is a more inviting game to play, given its layout on the main field. Here, the action is rather scattered due more to the restraints posed by the entire concept. It is a challenging game. The shot selection is so precise. The settings and pricing are going to be big factors as to how well it's received by the public, but it is sure to gain attention just because it's different and unique. The nice touches are the little nooks and crannies for the ball to travel to and through. It's a game I like playing just because it is difficult to master a specific approach, but this same interest might not be shared by those pinball players still out there. Keep in mind, however, that the pricing of the game can either make or break it on location, but aside from this, the action and challenge is there as well as the innovativeness of the product unto itself.

RATING: ###

And that funseekers, is it for this time around. Next issue is a look at the Chicago AOE and some news about pinball happenings as well as coin-machine industry news in general. Until then, be well and prosper.

Mr. Churchill's video game

Dambusters from Game-A-Tron is a video game that takes a new direction, in that it is "based on fact rather than science fiction," portraying the daredevil action of the RAF *Dambusters* bombing group in World War II.

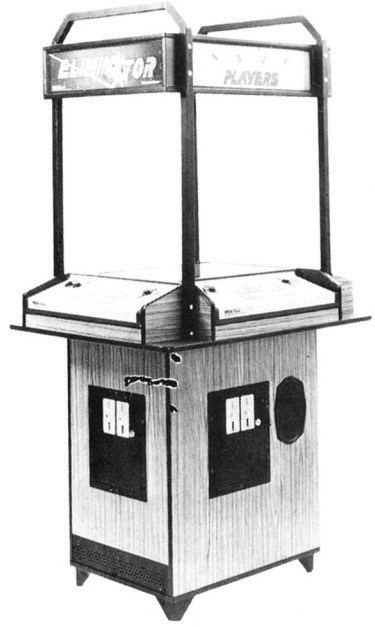
The manufacturer of the game for the U.S. market states: "The sense of realism achieved in the various bombing and retaliatory maneuvers is unparalled in present-day video."

Players are challenged to skillfully take off and fly over their home country to bomb enemy ships at sea. Details heightening realism include the feel of the joystick, musical accompaniment, and ack-ack explosions.

After successful approach to enemy dams and the launching of the bouncing bombs, the player tries to destroy the barrage in order to place his name in the fighters' permanent Roll of Honour.

An added feature is the ability to purchase more fuel, by inserting coins while the game is in progress.

Game-A-Tron will be exhibiting *Dambusters* at the AOE '82/ Chicago.



Eliminator kiosk debuts

A brightly lit promotional canopy designed to draw player attention and interest to Sega/Gremlin's four-player *Eliminator* video game is now available.

Beaming out the *Eliminator* name and game action graphics through four eye-catching back lit display panels, the canopy gives the space game even more appeal and player attraction.

Eliminator allows one, two, three, or four players to compete singularly or simultaneously against one another and the computer. It is engineered with Sega/Gremlin's ColorBeam X-Y color (vector) monitor system which adds a vibrant dimension to game play.

The four-player *Eliminator* features four playing strategies: (1) single players can challenge the game computer alone; (2) four players can pair off into teams which compete against one another and the game computer; (3) up to four players can join in a free-for-all against each other and the game computer; and (4) the surviving player in any multi-player contest continues to play against the game computer.

Objectives of the game are to force opposing player's space-ships, computer-controlled ships and the Eliminator ship into the Eliminator base where they are destroyed—and then destroy the base itself. Many secondary objectives and playing strategies built into the game keep players' interest high. Players who take the greatest risks will score more points.

Each player operates a different colored ship, either red, blue, yellow, or green. The color of the playfield border changes during game play to indicate which player leads in points.

The four-player *Eliminator*, the industry's first four-player Color X-Y game, has become a popular video concept.

Robots of the future

Williams Electronics, Inc. has introduced its *Robotron 2084*, a new video game with the play feature theme of "man versus electronic man."

On the game, the year is 2084 and the very robots that were made to serve mankind have become more efficient than their human designers. The robots have regimented and have succeeded in eliminating most of humanity. Only a few hundred people still exist—clones of the three basic human types. The man, woman, and child clones are defenseless against the rampaging robots who are trying to reprogram their minds. One last hope is discovered: A clone who is able, through a genetic mutation, to resist the onslaught of the robots.

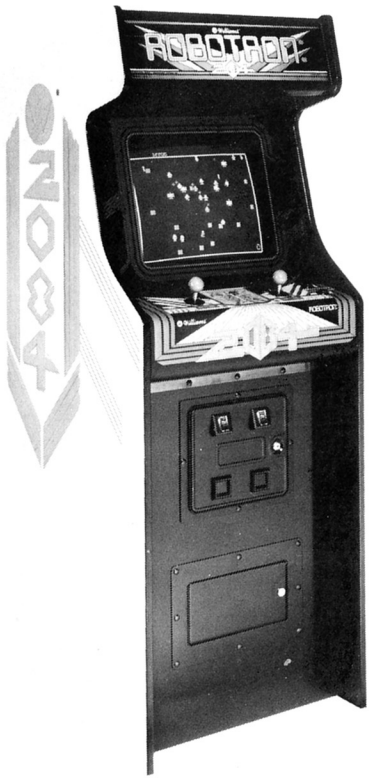
The player's mission is to direct this mutant clone, who is armed with special optic lenses and an anti-robot laser gun, to seek out the robots to destroy them and rescue his fellow humans who will wander aimlessly until contact is made. Rescuing the humans offers the highest scoring possibilities from 1,000 points for the first human rescued, up to 5,000 points for the fifth human rescued.

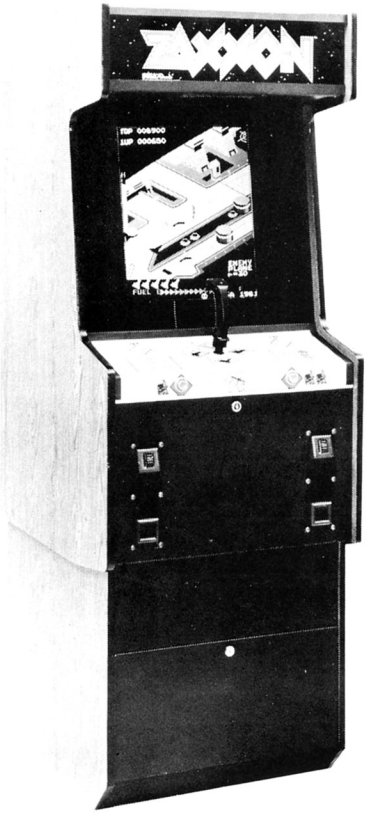
The player has three chances to destroy the robots and save humanity, and every time the player scores 25,000 points, he earns another chance.

Using the left joystick, the player can move the mutant clone in any of eight directions. Simultaneously, with the right joystick, the player can rapid-fire the anti-robot laser gun in any of eight directions. To successfully rescue the wandering clones, the player must deactivate six classes of robots.

In addition to all of the enemy forces, the player will be faced with pulsating, immobile Electrodes which attempt to block his path. Colliding with them will result in instant death. They must be avoided or obliterated with the laser gun. In each attack wave they assume different shapes, but remain just as deadly if contact is made.

Robotron 2084 pits the player against marauding robots in a rapid-moving video game.





Piloting in space combat

Color and three-dimensional effects of *Zaxxon*, now shipping from Gremlin-Sega, inject a new element of realism into the video game.

Zaxxon simulates actual flight; by operating a newly designed control stick with pistol grip and trigger firing action, the player guides his ship just like a real fighter pilot. Diving, banking, and flying left and right, the ship appears larger or smaller depending on its altitude. Its life-like shadow follows its moves. With the new sound of *space wind* in his ear, the player feels the thrill of flight.

First, the heavily armed floating fortress must be navigated, by dodging walls, maneuvering around fuel tanks, and avoiding fire from missiles and tank gunnery. It's a journey to score points, earn more ships, and to replenish the player's fuel supply.

Surviving the enemy barrage over the fortress brings the player up against the enemy fighter fleet. Destroying these aggressor ships is a battle of skill and perception; the player ship must be at their altitude when he fires to score a hit. Once the player has won the dogfight, the enemy ships all destroyed, he takes on the next round and a new battle with the enemy headquaraters, a fortress of more narrow passages and increasingly heavy firepower.

That test successfully passed, the ultimate challenge emerges: the enemy's deadly armored robot and his homing-missile arm. When the player scores six hits on the missile before it is launched, another fortress-city round is started.

Zaxxon is operator adjustable so that the standard five player ships may be varied. Enemy ships are adjustable up to thirty.

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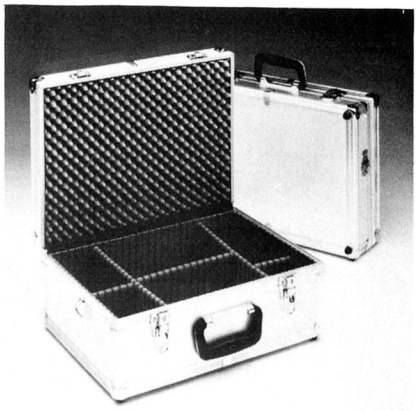


A new aluminum all-purpose case is available from Platt Luggage, Inc. The aluminum-covered veneer body features heavy-duty hardward and five interior adjustable rubber-covered dividers over polyfoam.

These cases, designed for flexibility of carrying parts and supplies, come in two sizes: 18¼×13×5, and 18¼×13×7½.

For full information, write: Platt Luggage, Inc., 2301 S. Prairie Avenue, Chicago, Illinois 60616; telephone: 312/225-6670.

Token 'keys' secure cashbox

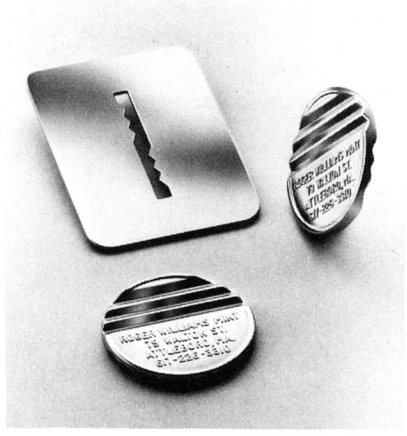
A new keyed token system, marketed as *Q-Bits*, has been introduced by Roger Williams Mint of Attleboro, Massachusetts, manufacturer of coins, medallions, and tokens.

Q-Bits prevents the use of slugs, coins, unauthorized tokens, and other foreign objects from entering amusement machines, laundromats, and many other coin or token-operated vending machines. Each Q-Bit is cast with a specific pattern of grooves, which match a corresponding coin slot. Only one particular token pattern will fit through each slot.

Benefits of the new Q-Bits system are cited as: a more controlled operation of equipment, improved security, limited loss of machine revenue, and less machine damage due to foreign slugs and coins. Q-Bits buyers also own exclusive rights to their particular key combination within a 150 mile radius, and any present coin or token system can easily and inexpensively be converted to the Q-Bits system, said the manufacturer.

Roger Williams Mint presently offers the Q-Bits system in 28 different keyed combinations, and most are available for delivery within two weeks.

For more information, contact Roger Williams Mint, Department PR, Northwest Industrial Park, 79 Walton Street, Marlboro, Massachusetts 02703; toll-free 1-800-225-2734.



Changers convert to memory package

New *Computer Changers*, with their built-in micro-processor, not only make change for bills and coins, but they add, subtract, accumulate, totalize, audit every transaction, diagnose and pinpoint any problem, even shut themselves off at the first sign of any malfunction and, with optional battery pack, retain their memory. So said the manufacturer, Standard Change-Markers, Inc., in announcing the availability of a whole new line of computerized changers.

Standard Change-Makers' new *Computer Changers* are a whole new generation of "sophisticated change-makers designed to meet the changing needs of today's inflation and tomorrow's growth," President James R. McNutt added. "Currently, they will be available as new equipment, but soon the key components will also be made available in conversion packages designed to enable owners of thousands of Standard bill/coin changers purchased in years past to up-date their machines."

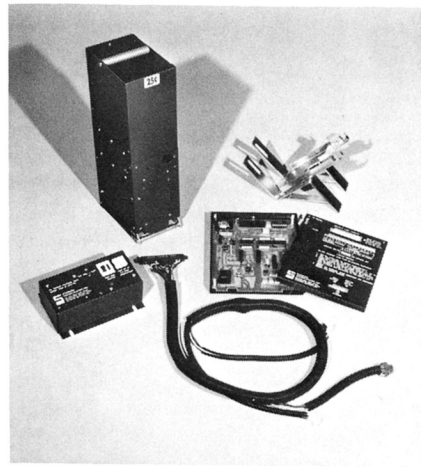
The new *Computer Changers* change $1 bills, $5 bills, $1 *and* $5 bills, plus coins ($1, 25¢, 10¢, and 5¢) and accumulated coins. They can be owner reprogrammed to meet almost any change need, said the manufacturer.

The units can be built with 1, 2, 3 or 4 direct-action, bulk loading hoppers that automatically clear any jams caused by bent or mutilated coins. The 4-hopper changers can hold up to 10,000 $1 coins, 13,200 quarters, 16,000 nickels, 30,000 dimes or a comparable number of similar-size tokens. The hoppers can be quick-dumped for easy audit.

The Changers' electronics package has a 6-digit read-out that talks English and numbers, making maintenance and service quicker and easier. Circuit breakers protect the electrical system.

Standard's new *Computer Changers* will be available in five basic cabinet styles: a floor console, a new modular cabinet ideal for installation in banks of vending or coin-operated service equipment, and in 3 different types of wall-mount cabinets. Both wall-mounted and modular cabinets will be available with front or rear-opening doors and flush-handle T locks.

For full information, call or write: Standard Change-Makers, Inc., 422 E. New York Street, Indianapolis, Indiana; telephone: 317/639-3423.



Standard Change-Makers' kits convert magazine-load to hopper-load computerized changers at low cost.

Neutralizes static IC environment

Chemtronics Inc. has announced the availability of *Static Free*, an anti-static spray for use in the computer room. "Static electricity can degrade system performance, resulting in costly downtime," stated Louis Friedman, Chemtronics vice president. "Years of exhaustive tests have resulted in a uniquely effective product that neutralizes and eliminates static electricity throughout the computer room environment."

Useful, too, for an arcade, *Static Free*, which instantly neutralizes static build-up generated by friction and low humidity conditions, is safe for use on plastics, paper, cloth, rubber coatings, and finishes. It may be used freely to eliminate static and its accompanying dust and dirt on data entry terminals, visual display terminals, magnetic tape, and disc drives, computer printers and decollators, CRT screens, disc surfaces and anywhere else static build-up is a problem. *Static Free* may also be applied directly to furniture, floors, carpets, chairs, and peripheral equipment.

Static Free is available in 16 oz., 454 gram cans from authorized Chemtronics distributors. Details about the product and names of local distributors are available from Chemtronics Inc. 681 Old Willets Path, Hauppauge, New York 11788; telephone: 800/645-5244; in New York, 516/582-3322.

Computer 'talks' via long-distance

Validata Computer and Research Corporation, a developer of microcomputers for the route distribution industry, offers acoustically coupled modems complete with its RouteSail systems and other specialized systems.

The Remote Diagnostics modem, connected to the computer terminal operating over standard telephone lines, allows the client to call up Validata and have its central computer "talk" back and forth performing the diagnostic interview. The problem is then identified and repaired.

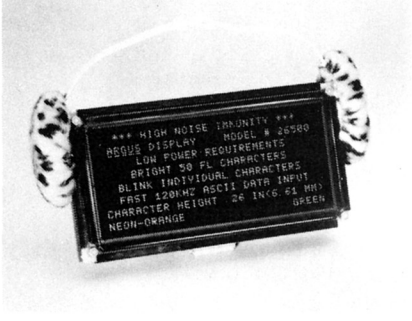
This unit enables Validata to solve about 92% of its clients' computer problems within minutes of their occurrence, whether the problem is software or operator oriented, according to Validata.

For more information regarding this customer service, contact: Validata Computer and Research Corporation, 428 South Perry Street, Montgomery, Alabama 36104; telephone: 205/834-2324.

Quells noise to display alphanumerics

The Industrial Products Division of Industrial Electronic Engineers, Inc., (IEE), manufacturer of diverse display modules designed specifically for noisy EMI environments such as machine tool control, process control and oil fields.

The new *Argus* model 26500 display module has eight lines of 32 characters. Other models include 8×40 and 12×40 devices. The *Argus 26500* accepts asynchronous ASCII input up to 120K Hz. The data input cable can be up to ten feet (2.5 meters) long; 5VDC, 12VCD and 150VCD are provided via a separate connector.

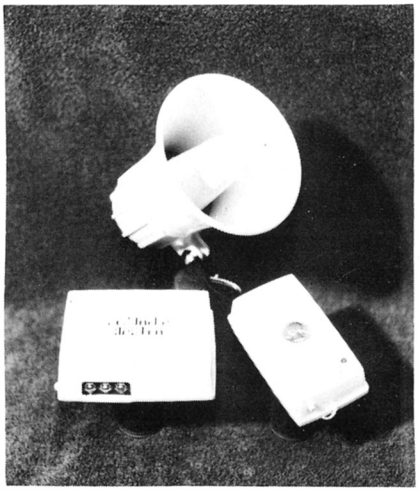


Characters are formed in a 5×7 dot matrix with cursor underbar. The display is available in bright 50fL neon-orange or green. The *Argus Model 26500* is priced at $686 in quantities of 100.

For additional information, contact a local IEE representative or: Industrial Products Division, IEE, 7740 Lemona Avenue, Van Nuys, California 91405; telephone 213/787-0311, ext. 210.

Protects coin-ops from sticky fingers

PDI Systems, of Atlanta, Georgia, has recently introduced the first integrated circuit alarm system specifically designed for the coin-op industry. Using advanced microelectronic technology, PDI has packaged a wireless security system that adapts to all video games, pinball machines, and vending equipment.



Security Masters consists of compatable transmitters and receivers. All the operator has to do to protect his equipment against break-ins is to attach the battery-powered transmitter to a machine. If the equipment is tampered with, the transmitter sends a signal to a remote battery powered receiver which sets off a 103dB alarm. This transmitter is capable of sending a signal to the receiver up to 200 feet away. The alarm cannot be turned off until the operator or location owner shuts off the system.

The transformer can also be equipped with PDI's optional "Game Theft Sensor." This device "senses" when the machine is lifted and moved, then sends a signal to the transmitter which triggers the remote alarm system.

This system also contains a multiple key digital switch, which, when set to predetermine on/off positions, creates unique digital codes.

Because the Security Master alarm system is constructed of all integrated circuits, it is not only extremely reliable, but also not much larger than a pack of cigarettes. It is attached to the machines in such a way as to make it easily transferable from machine to machine as needed, according to the manufacturer. For further information, contact: PDI Systems Wholesale Division, P.O. Box 720476, Atlanta, Georgia 30328.

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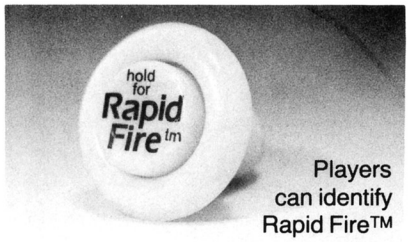

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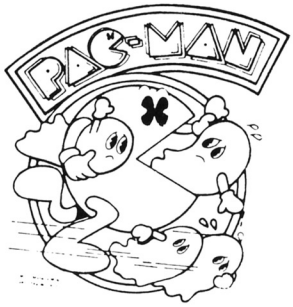

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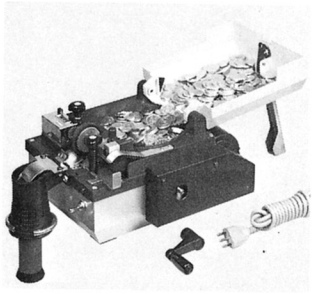

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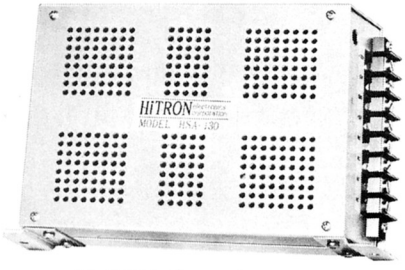

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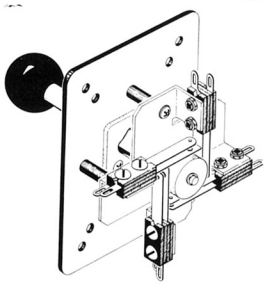

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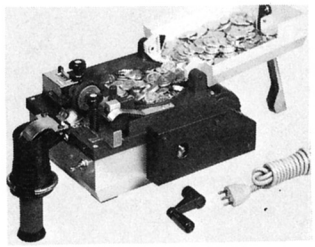

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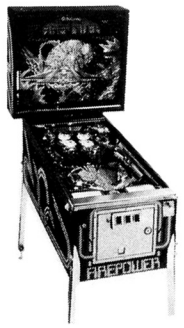

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Any excuse will do

by David Pierson

Anti Video Game Argument #186325 "They take away children's lunch money."

There's something very curious about all the arguments *against* coin-op video games. When opponents of these pastimes say the games (1) are addictive; (2) take away children's lunch money; (3) bring children together in an unwholesome environment; (4) are owned and operated by the criminal underworld; (5) are creating gamblers out of our youth; (6) cause physical maladies and ailments; and other arguments too numerous to list here—they're really telling us something about themselves.

A flag should go up in the head of any thinking person whenever somebody comes up with innumerable reasons for doing anything at all—and that includes banning or severely restricting coin-op video games. There's a good chance when someone gives you countless reasons for doing something, it's because he doesn't have one good reason.

We've seen this happen before, and on a much grander scale, with nations, in fact. Adolph Hitler obviously gave the Germans a limitless number of reasons to justify his "elimination of unreliable elements" (i.e. the Jews). Richard Nixon and his loyal followers also had quite a number of reasons to justify their attempts to subvert the American electoral process. And, most recently, the Ayatollah Khomeini was noted for his endless list of justifications for the kidnapping of innocent U.S. Embassy personnel.

This tendency to make up countless reasons where possibly none really exists is not only the mark of demagogues, however. It's a very basic human trait.

As parents will no doubt realize, children are at their creative peaks when they are told to do something that they just don't want to do, like when Mommy or Daddy says it's time to go to bed.

A flow of "reasons" (really excuses) is bound to flow from these little minds. It's re-enacted in millions of American homes every night.

"I'm not sleepy." "I'm scared." "My legs hurt." "I'm thirsty." "I'm hungry." "You promised me we could go to the park on Saturday." "Nick doesn't have to go to bed." "I have to go to the bathroom." "I have to brush my teeth." "I can't find my teddy bear." "I didn't do my homework."

Some experienced parents will tell you, in fact, that any child who cannot come up with at least four different but good reasons for not going to bed each night may be a prime candidate for a special creativity assertiveness class. That's because kids will just naturally come up with hundreds of reasons why things should go their way.

To these little minds, it's not the quality of their reasons that's important, it's the quantity.

The same thing is true of the new vigilantes against coin-op videos. Instead of coming up with one good reason why videos should be banned or restricted, they will bombard you with countless reasons. What they are really doing is adding to a bottomless grab-bag of one-liners to do away with something they just don't like. And it really doesn't matter how many of these creative arguments you knock down, because they'll just keep on making new ones.

Still, it seems some of these coin-op vigilantes should know better. After all, they themselves are parents. Then again maybe they never really grew up and learned that they couldn't always get their way.

Oh, well, little minds. The more things change, the more they stay the same.

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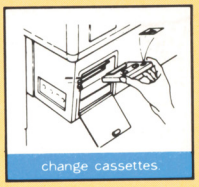

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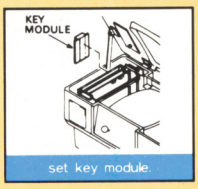

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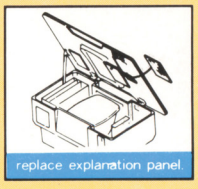

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