

The Twice Monthly Publication
for the Coin Operated Entertainment Industry

PLAY METER

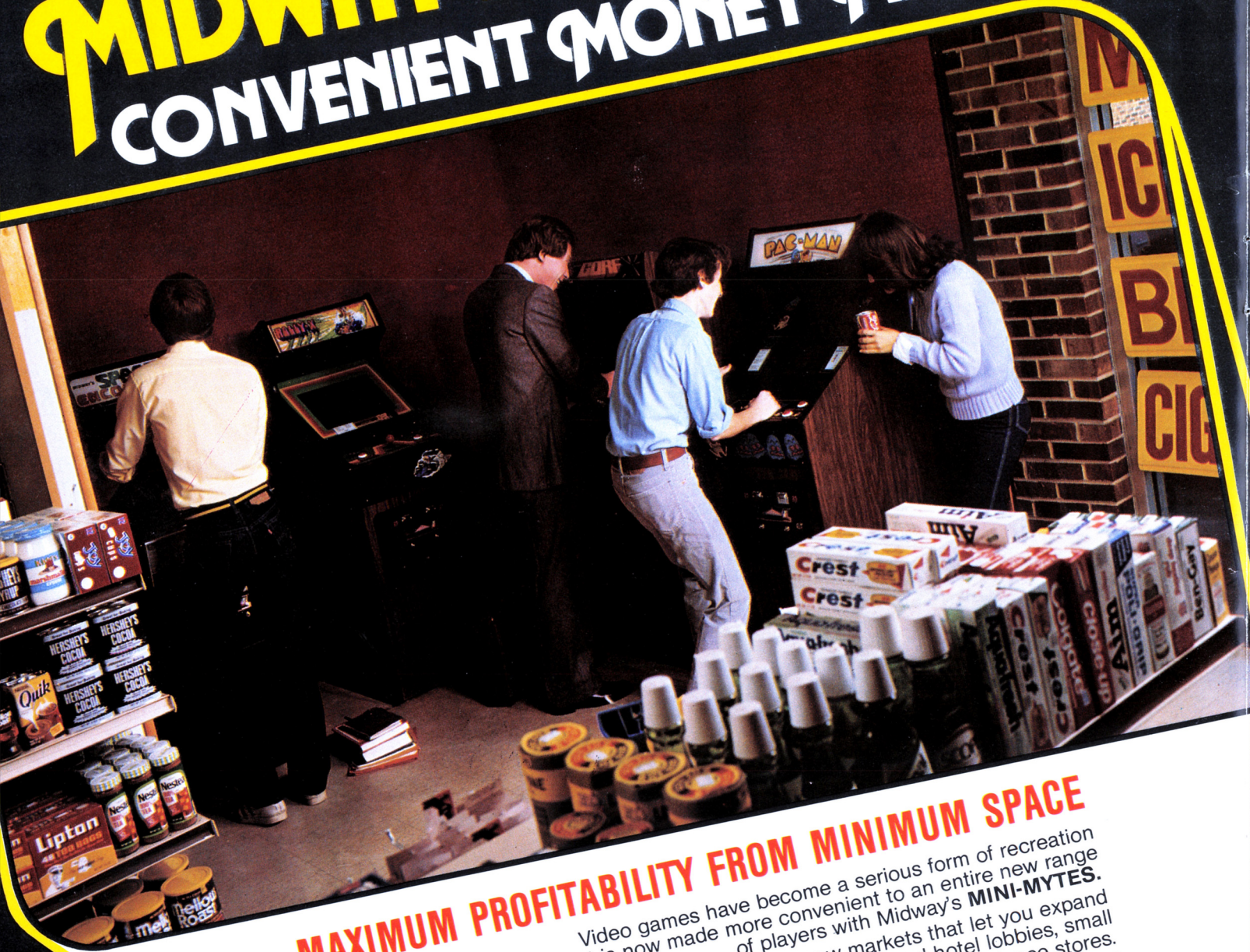
Volume 7, Number 10

June 1, 1981

Arcades Today
Part 2



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PLAY METER

Vol. 7, No. 10
June 1, 1981

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PLAY METER

Arcade Operators Survey21

The revenue intake of arcades today and the playing level is examined in this concluding portion of results from PLAY METER'S first-ever arcade operators survey.

AOE: The Operators Show23

After the first run of the New Orleans show last year, some exhibitors were dubious about its pull in turnout. After the showing at AOE'81, the responses were that it was a 'phenomenal' success. Here's a report of the people, the firms, and the equipment at this year's spring time show.

AOE Seminars33

The attendees raved about the quality of educational sessions offered at the Amusement Operators Expo'81. Here's a rundown of the seminars and a look at some of the people in attendance.

Tokyo Huddle on 'The Copying War'42

Japanese, American, and European games makers recently held a conference to work on the problem of infringement on original games. They vowed to pursue international action against program piracy, as this dispatch tells.

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COVER courtesy of Electronic Experience family amusement centers.

From the Editor

By now you are probably wondering what happened to your Update News Edition of *Play Meter* this month? Or perhaps you are saying to yourself, 'Didn't I get my *Play Meter* two weeks ago? What's going on here,' you may be asking. Well, worry no more. What you are holding in your hands is the first complete twice-monthly edition of *Play Meter*. That's right, from here on you will be receiving two full issues of *Play Meter* each month. I realize that this change in *Play Meter*'s frequency may have come as a surprise to most of you, but it is an important step that we have been working toward for quite a while now. At last, it has become a reality.

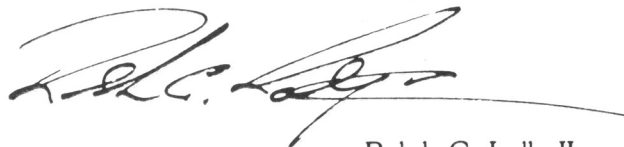
In the early days of *Play Meter* it was all we could do to put together a sufficient number of ads and proportionate amount of editorial material to come up with one issue each month. Now, all that has changed. The industry has experienced such a phenomenal growth rate over the past 6½ years, something had to be done. It became obvious to us, as we were witnessing and participating in the explosive growth period, that once a month was simply not enough. Things are happening so quickly in this ever changing industry that it is next to impossible for a monthly magazine to keep pace with an industry that's growing and changing from week to week...

As part of our continuing commitment to keep pace with and serve the industry we care so much about, we have committed ourselves to publishing 24 full issues of *Play Meter* every year. Our goal is to provide you, the operator, with the kind of information you need when you need it. And because of our new frequency, you will be receiving that information twice each month.

There is no question that we are all involved in one of the fastest growing industries in the world. Independent research has revealed that over the past several years, production of coin-op games has almost tripled. The number of manufacturers has at least doubled. When we first started publishing *Play Meter* back in 1974, our mailing list consisted of some 7,000-plus names. Today, that mailing list totals in excess of 14,000 names. The number of people receiving *Play Meter* each issue presently is 8,300—60 percent more than last year alone. And that's not all. Take a look at what equipment is costing these days. The cost of almost everything has doubled. Operator income has been growing at a rapid rate. So has the number of locations and players. Those are all signs of rapid growth in an industry that is still in its infancy.

As the leading trade journal for this incredible industry, it is our primary responsibility to change with the times and keep pace with the growth of the industry. Coin-op business is becoming twice as big, twice as high, and twice as profitable. In order to stay ahead, you're going to need to know twice as much. That's why *Play Meter* is going to be hitting you twice a month. As the industry gets bigger and better, so will *Play Meter*.

In closing, I would just like to express my sincere appreciation for the thousands of *Play Meter* subscribers who have demonstrated their continued confidence and support. I would especially like to thank those of you who came from all parts of the U.S.A. and abroad to attend the Amusement Operators Expo (AOE) here in New Orleans. Thanks for your overwhelming display of confidence; the AOE was an outstanding success.



Ralph C. Lally II
Editor and Publisher

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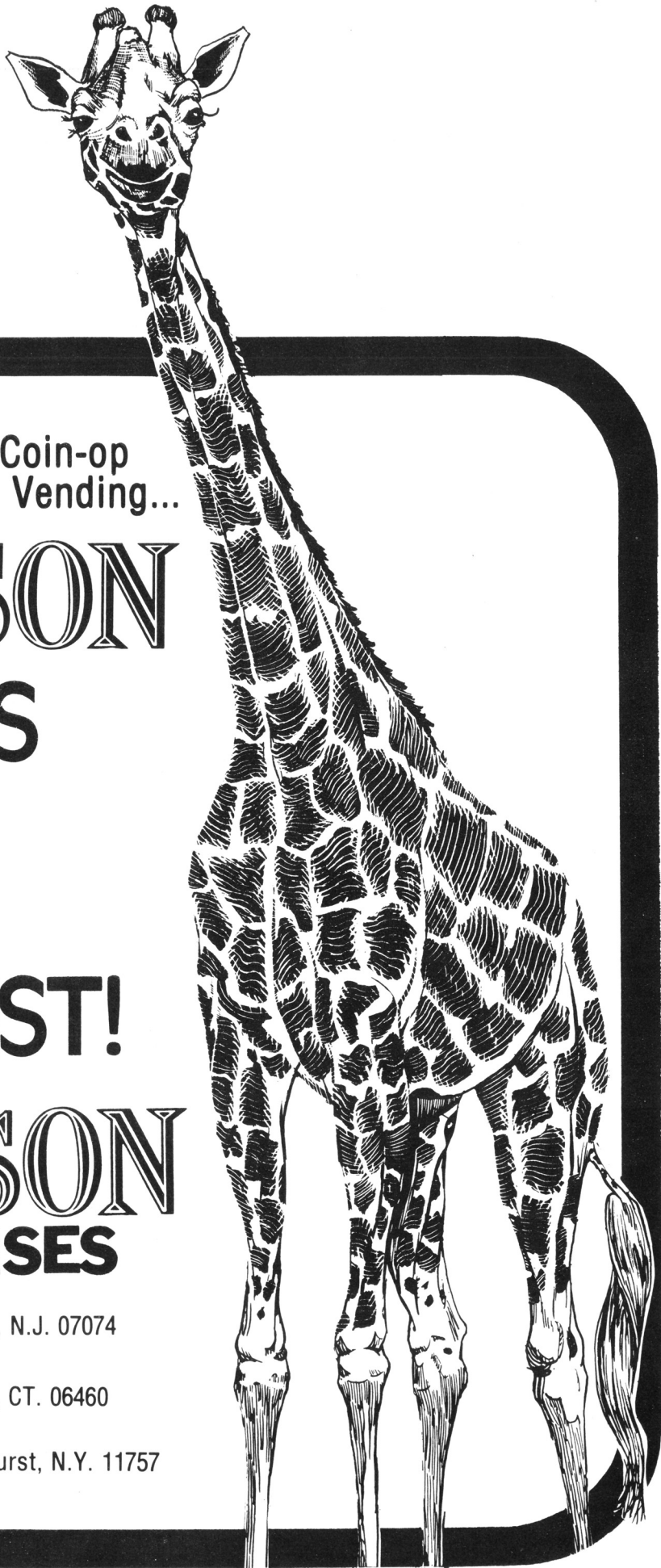
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viding the proper Token is selected, Coin Mechs can be set to eliminate slugging completely.

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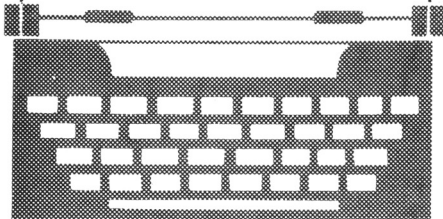
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Letters to the editor . . .



Rates highly

We received a copy of your January 15 issue from a friend and found it to be very informative and entertaining.

Especially liked the descriptions and ratings on the new machines, and also the articles on the Japanese machines. [Tokyo trade show coverage —ed.]

P. Bechard
P&P Amusement
Brantford, Ontario, Canada

Please publish

Planned on attending the Amusement Operators Expo but I couldn't break away from "the mine." A suggestion: Publish in some form the proceedings and make them available to your readers. Sure would appreciate it.

Ron Herbers
R.B.R. Amusements
Cincinnati, Ohio

[Expo coverage appears in this issue and was included in the May 15 issue of PLAY METER. —ed.]

Sales spurred

We, Leijac Co., Ltd., are enthusiastic readers of PLAY METER, and we make full use of it to know more about the tendency of the international market.

For instance, we have sent sales letters to the manufacturers and distributors in foreign markets, listed in your 1981 Directory Issue, introducing our line of products, and we have received much more in inquiries than we had expected. We

appreciate indeed this informative magazine not only as a guide book of the industry but also as a trade journal.

E. Yamamoto
Leijac Co., Ltd.
Osaka, Japan

excellent medium for presenting new products, covering coin conventions and coin machine repair courses.

Gerald Galanowsky
Clifton, New Jersey

Wants more

I'd like to express my opinion on Play Meter's show [the Amusement Operators Expo], which was very outstanding. I was disappointed not to see a lot of the manufacturers that I built my route on, such as Williams, Bally/Midway, Stern, and Atari. I'd also like to point out that some operators in the south part of the country cannot make it to Chicago every year, and having a show in this part of the country is an asset to the operator and to the distributor. I hope to see these manufacturers next year.

Again, it was a well-run show and several of my fellow operators have the same feelings.

Gary Domino
American Amusement
Morgan City, Louisiana

Resources

I would like to congratulate you on your fine publications. Play Meter Magazine is well written and provides readers with pertinent information.

The Digital Circuit Design Course is excellent, and the new tear-out Directory issue is a fine resource volume. Your magazine values its readers' opinions, and the whole philosophy of the publication is very honest and frank.

Unfortunately, I couldn't attend your convention in New Orleans this year. Have you considered taping the seminars and offering them for sale? Video tape would also be an

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Coinman Interview: Steve Isaacson

Coinman Steve Isaacson is a nationally recognized authority on arcade operations. As vice president and general manager of the Sega Centers Division of Sega Enterprises in Los Angeles until January of this year, he was responsible for all aspects of the operation of Sega Centers' family amusement centers in regional shopping malls throughout California.

Recently he took on the position as vice president and general manager of S.L. London Music Company, Inc. in Milwaukee, Wisconsin, a primary distributor of games, music, and vending equipment. As an arcade specialist he also works with several national and local operators as an advisor on equipment merchandising, location analysis, real estate relations, site construction, licensing, and financial planning. He is also an experienced advisor on promotion and advertising techniques.

Steve joined Sega Centers in January, 1978, coming into the coin-op business by way of having been "a location," as he puts it.

From 1973 through 1978 he was involved in various entertainment enterprises such as bowling alleys, theaters, live music clubs, and restaurants. His

background has also included several years in the banking business where he arranged mergers and acquisitions, handled private financing, and public offerings. A graduate of San Diego State University, Steve served for four years as a captain in the U.S. Air Force as a commander of a missile combat crew of Strategic Air Command.

Of his recent move into distribution, Steve says that it provides him a different perspective of the industry, and he sees in that a challenge. "I enjoy the distributing side of the business," he said, "because it makes me a sort of focal point with all my customers. I feel I have a much better pulse of the industry than when I was an operator. The reason is I'm hearing everybody's problems, and I'm learning a lot from that vantage point."

Steve was also one of the featured speakers at the second annual Amusement Operators Expo where he delivered seminars on various phases of arcade operations. In fact, this interview with Steve was done on the morning of the last day of the AOE Show, one of the rare times when Steve was not scheduled to speak or appear on an industry panel.

PLAY METER: *what was your first consideration when you took over the helm for Sega Centers?*

ISAACSON: The first thing I did when I joined Sega Centers was to try and determine who the market was. We decided that we had to find out what our market was because then we would know who our players were and could then direct our marketing toward them.

PLAY METER: *Why was this the first consideration?*

ISAACSON: Our feeling was that the more often you get a player into your place, the more likely he is to spend some money with you. Up until this time, the theory was that a family amusement center was an impulse place only, that it would only appeal to people who were walking by at the moment. The theory was that you could not market to the outside, that a family amusement center could not become destination oriented. So the only promotions that were being done at the time consisted in passing out coupons for free tokens in the mall. But there was no effort to go beyond the mall itself and into the home in the form of advertising or any other marketing effort.

We felt there must be a way to make the arcade destination oriented. But to do that we first had to find out who our customer was. That's why determining who our market was became such a high consideration.

What we did was put some money into a promotion called the Sega Summer Sweepstakes, and we took out some radio advertising on youth stations, and we raffled off some equipment. We ran the promotion for an entire month. Players coming into the amusement center could sign up, and we had them give us a lot of information such as how old they were, what their game interests were, how far away they lived, and so on. It turned out after the promotion that we got something like 15,000 to 20,000 responses across our chain of ten locations.

PLAY METER: *How did this response help you?*

ISAACSON: We learned from it that the average player at our amusement centers was a 14-year-old male. But we realized a lot of other benefits from this promotion. For one thing, we found the players at each of our stores had different game preferences. We found that we had driving stores, flying stores, pinball stores, and that shot down a myth to us that all arcades are the same. So, based on that, we rearranged all our equipment to suit the desires of the clientele at the various stores, and that resulted in an immediate boost in revenues.

But, more importantly, the promotion supplied us with a mailing list of players, and that meant we could do some direct marketing to that group of active players and try to get them to come into our stores more regularly.

'We found we could do some direct marketing to that group of active players and try to get them to come into our store more regularly.'

PLAY METER: *Is this where the Sega Centers newsletter, Extended Play, came into existence?*

ISAACSON: Yes, we started sending out a newsletter to our mailing list. The first one highlighted the winners of the sweepstakes contest and had some free play

coupons in it that could be turned in at any of our stores. We were amazed by the amount of free play coupons that came back from these players from this newsletter. And that told us something significant, that our market was responsive to direct marketing. We realized that we could, in fact, make our stores destination oriented for these players.

'Our market was responsive to direct marketing. We realized that we could, in fact, make our stores destination oriented for these players.'

You see, the theory was that if you can get them into your store, you can do business with them. You can't do business with them if they aren't there. So we had to give them a reason to keep coming back. That's why we developed the Sega Card. It was a plastic card, beautifully done, that entitled a player to two tokens each week at each one of our stores. That meant players could actually go from one store to another and get two tokens at each store, and we found this approach very successful.

The Sega card became something of a status symbol in Los Angeles area high schools. The reason was that our main audience of 14-year-olds didn't get any mail, and our marketing approach flattered them by giving them mail. It also gave the players something that looked like Dad's credit cards, and so it was a good status symbol.

PLAY METER: *How did the players get these Sega Cards?*

ISAACSON: We sold them the card, and that I think is the best way to go about it. That way the players look upon the card as an investment.

PLAY METER: *And so the newsletter and the Sega Cards helped pick up play at your arcades?*

ISAACSON: Definitely. The newsletter, which came out quarterly, would always have more coupons in them to keep players coming in for even more free plays. But I should point out that a promotion like this is a costly proposition. So I wouldn't advocate that everybody go out and do everything just like we did it. Sega spent thousands and thousands of dollars developing this technique. With all the printing and mailing costs, something like this becomes quite an investment. But it paid for itself over the years.

Also, we were able to keep tracking our card carriers because when they signed up for a card, we made them give us even more demographic information. And we used this every month to run a computer analysis of our playing public.

PLAY METER: *So you were able to monitor any shifts in your membership?*

ISAACSON: We found that the membership still stayed predominantly in the 14-year-old range and declined as it got up toward 30. It started at 7, rose to a peak playing age at 14, and started to fall off in something like a bell curve as it got toward 30. And then we found something interesting after that. We found that it began to swing up again at about the age of 35. What this showed us was

that Mom and Dad were also carrying Sega Cards. In other words, what had started off as a market for 14-year-olds developed into a truly legitimate family amusement center. And as we thought about it, it began to make sense. The reason was we found the malls and the amusement centers were becoming the town centers. Because of the cost of gasoline, people just aren't joy-riding anymore. They're hanging around closer to home.

PLAY METER: Is this shift reflected in the malls themselves?

ISAACSON: Well, one of the problems with enclosed malls in the past was that you couldn't stay open past regular hours sometimes. It depended upon where your store was within the mall. But with a lot of the newer malls where they have movie theaters, they had added an outside access so that people could come and go during regular movie hours, which are after regular mall hours. And now we're beginning to see amusement centers put into this section of the mall along with the restaurants. They'll all be sectioned off together in an area separate from the regular retail stores, and it's working fine.

PLAY METER: But, in the past, amusement center operators haven't really been in a position to get such special placement within the mall, have they?

ISAACSON: There has been a change in thinking along these lines by mall developers. That's why they're placing amusement centers in the middle of food courts and the movie theater. It's becoming part of the entertainment center of the mall.

As you pointed out, in the beginning when mall developers started leasing space to amusement center operators, arcades were just taking unwanted spaces. They were filler stores. They filled unwanted spaces that developers couldn't lease to retailers because it was too narrow or too long or whatever. And mall developers found they could get huge rents by leasing this space to amusement centers. But within the last few years, mall developers have found that amusement centers and movie theaters and restaurants all share a relationship. If grouped together, they can create an excitement, and it will encourage families to come in together. And the business from one store spills over into the other stores for the benefit of everyone.

PLAY METER: And this is precisely your point, that amusement centers no longer have to be merely impulse stores?

ISAACSON: That's right. The feeling before was that we were in an impulse business where people might come in and play some games, But now we're an attraction. We've become destination oriented, as we had been able to show with our direct marketing program. We actually got people coming specifically to the mall for us, to cash in their coupons and get their two tokens from their Sega Cards. We even had a case of a mother who stopped by to get her son's two tokens for him because he wouldn't be able to use his tokens until later when he got out of school.

PLAY METER: Has the fact that amusement centers are becoming destination oriented improved the bargaining position of arcade operators with mall developers?

ISAACSON: Unfortunately not. There is a frenzy on the part of operators to get those spaces because there are only so many available. So it's still strictly a seller's market. You have a limited number of malls being built today because of the economics and a growing number of operators competing for those locations.

PLAY METER: Then where is the best chance for the local operator? At the strip arcade?

ISAACSON: I don't want to say a local operator can't get a primary mall location. It depends upon what his relationships are, but a lot of times it's better if they deal with smaller developers.

You see, there are really two types of mall developers. You have your international mall developers who build everywhere and who have already established working relationships with such companies as Sega Centers, Aladdin's Castles, and other multi-state operations. But you also have a number of regionalized developers who don't build the 300,000-plus square foot centers but rather are building centers with local merchants and are looking for a local flavor to their shopping centers; so a local operator may have an advantage in this kind of situation.

PLAY METER: As you know, there has been a great influx of new people into the industry; and, for the most part, these people are focusing their efforts into arcade operations. What are your thoughts about this?

ISAACSON: It seems that everything is an arcade today. When I go to a convenience store, for instance, I may see four, five, even six pieces being actively played, and to my mind that's an arcade. But certainly today the activity is in the arcades. It all goes back to the point that our

'Our industry is becoming more destination oriented than in the past. At one time we thought the only place you could have a successful amusement center was in an enclosed mall.'

industry is becoming more destination oriented than in the past. At one time we thought the only place you could have a successful amusement center was in an enclosed mall. Then we found we could operate in an open air mall. Then we found out we could operate on the premises of an open mall, but not necessarily in the mall. And now we're seeing some very nice places being built on the street that are doing great business, and I think it's all wonderful.

I think this kind of expansion is great for the industry as long as it's being done with forethought. If the operator is making a long-term commitment to being a professional in our industry, if he's managing his business properly, if he's keeping his store clean, if he has the right kind of employees, and if he has the right kind of atmosphere to encourage the family environment, then he is helping this industry grow.

What I am concerned about are those people who are in this business for the quick buck, such as investor groups which really have no idea about our business but see it all as a great tax write-off. I think some of these people are not being properly counseled on what it is our business really means, what it means in terms of managing and replacing equipment. I am truly concerned that the quick buck artists could give legitimate operators a bad name and make municipalities and local authorities take a negative view toward our whole industry.

PLAY METER: What then are some of the "Do's" and "Don't's" about arcade operations?

ISAACSON: I'd rather focus in on the "Do's" of arcade operation. First, you have to find out what your local authorities think about your type of operation. Listen to their suggestions as to what they would like to see, both in terms of management and specific types of crowd control. The first "Do" is to get on their good side because, if anyone can, they're the ones who would probably put you out of business if you don't comply.

Second, if you're building a location, you're going to have to spend a certain amount of money on leasehold and a certain amount of money on equipment. Starting with leasehold, build an attractive place. Solicit an architect or interior floor designer, someone who really knows how to put a place together. It will cost you a little bit of money, but go ahead and review designs and choose colors and themes and layout that would be appealing to almost any age group. It's important that you do so, rather than just paint the walls candy stripes and throw in a bunch of games.

Then you also have to consider game layout, with a mind toward free traffic flow. There can't be any dark nooks and crannies. Instead, your amusement center must be attractive and not intimidating so that people aren't going to be scared to walk into a corner of the place. And that all goes back to decor.

PLAY METER: How important really is decor?

ISAACSON: It's very important. Anything that's going to be in front of the public is important, and that means you should spend your money on it. We found ways to cut the cost in the things the public doesn't see. For instance, when you're building a store, you don't have to have the best bathroom in the world for employees. But I think it would be foolhardy to cheapen those things the

public can see. Instead, cheapen the things people don't see, like the employees' bathroom or the manager's office.

PLAY METER: Turning to the matter of equipment purchasing, is there a shorter life span for games in an arcade than games outside on regular street locations?

ISAACSON: You're asking me a question about today's volatile market. There are a lot of 90-day wonders today because, for instance, of the intense competition with space-type games. And that means the public can get very tired of a game very quickly.

Now as far as the arcade operator goes today, in terms

'I think the theory of rotation is dead. There is no place to rotate. There is nothing to rotate. If you are on top of the market and have four, five, or six arcades, you must buy top games for those locations.'

of his equipment purchasing, I think the theory of rotation is dead. There is no place to rotate. There is nothing to rotate. If you are on top of the market and you have four, five, or six arcades, you must buy the top games for those locations. You're not going to be able to *Asteroids*, for example, and say you're going to rotate rotate that *Asteroids* to your second store. The second

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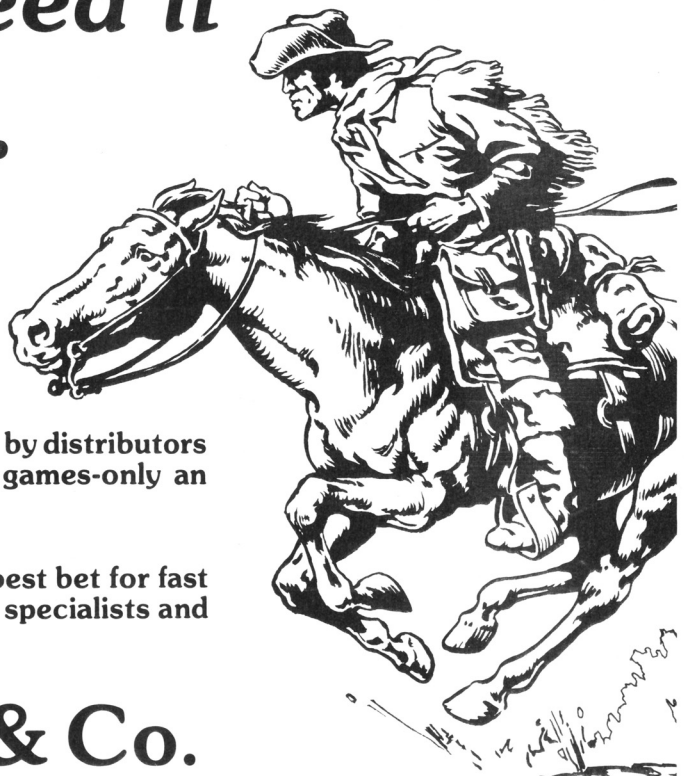
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PlayMeter

Survey results
compiled through
April 1, 1981.

Equipment Poll

Top Videos

APRIL 1	MARCH 20	APRIL 1	MARCH 20
1 PAC-MAN/Midway	2	6 MISSILE COMMAND/Atari	6
2 ASTEROIDS/Atari	1	7 BATTLEZONE/Atari	5
3 BERZERK/Stern	4	8 GORF/Midway	—
4 DEFENDER/Williams	9	9 RALLY X/Midway	—
5 GALAXIAN/Midway	3	10 PHOENIX/Centuri	—

Others receiving votes: ASTRO FIGHTER (Gremlin), SPACE INVADERS (Midway), STAR CASTLE (Cinematronics).

Top Pins

APRIL 1	MARCH 20	APRIL 1	MARCH 20
1 BLACK KNIGHT/Williams	1	6 BLACKOUT/Williams	4
2 XENON/Bally	3	7 SPACE INVADERS/Bally	6
3 FIREPOWER/Williams	2	8 GORGAR/Williams	7
4 FLASH GORDON/Bally	—	9 NINE BALL/Stern	—
5 FLIGHT 2000/Stern	5	10 FLASH/Williams	10

Others receiving votes: BIG GAME (Stern), SCORPION (Williams), SILVERBALL MANIA (Bally).

If you would like to join readers currently participating in the survey, simply fill the coupon below and mail to: *Play Meter Equipment Poll*, P.O. Box 24170, New Orleans, LA 70184.

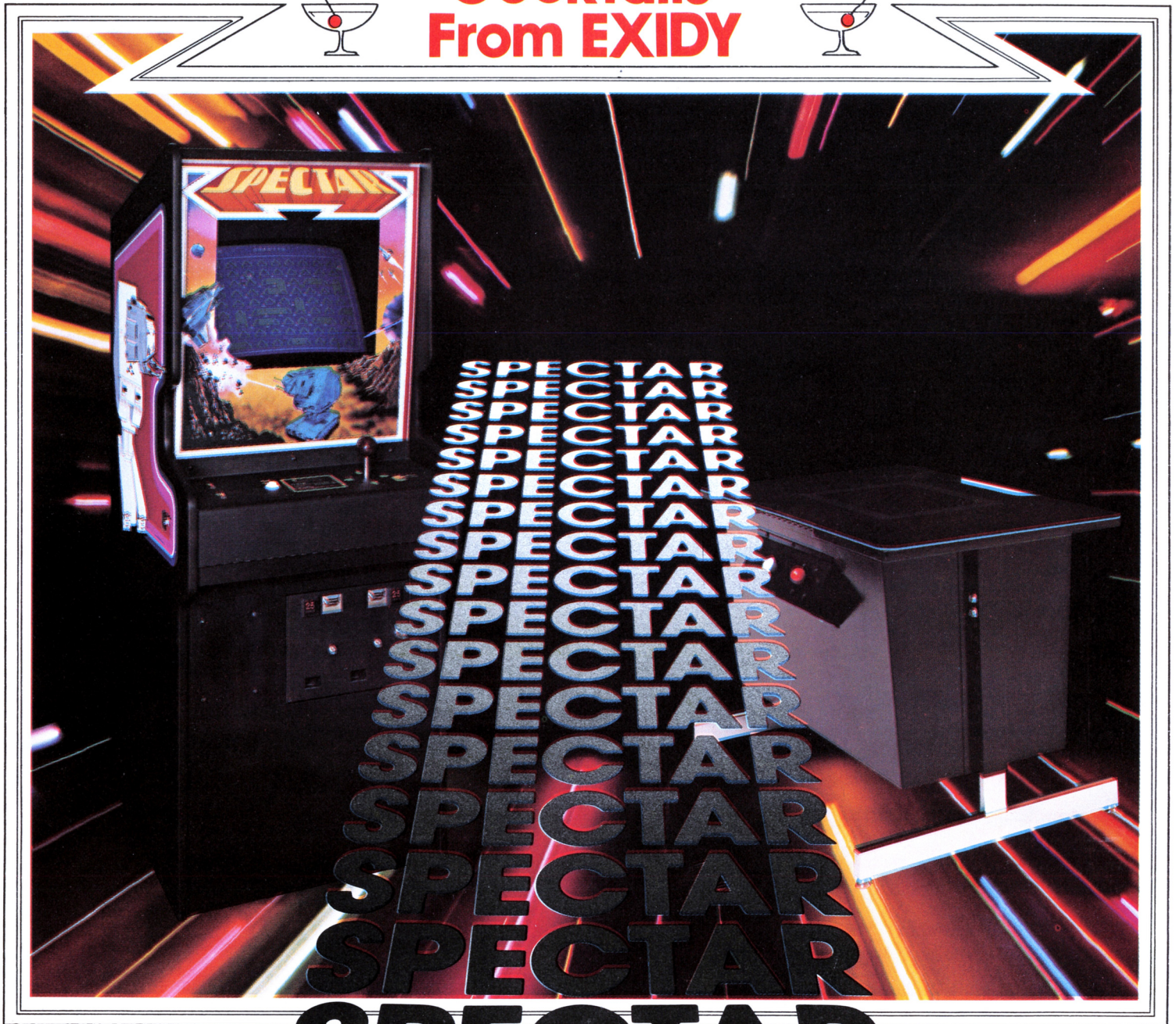
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The only possibility of game rotation that I see today is in very unique pieces, i.e., a big sitdown flying or driving game. That is what we used to call a sort of attraction piece. That's the kind of piece you could put in the front part of your store to get people in. A piece like that could be rotated. A good example was *Hercules*, the big pinball game. We bought a few of them because they were profitable, and they were unique. It was an attraction piece. And you could move that from place to place to catch people's eyes. You can still rotate equipment like that. And it is good to have pieces like those, and you can still rotate a pingame because there is a variety of those, and so there's still some possibilities for rotation there; but you're not going to be able to rotate a hot video game.

The arcade public is very aware of what they want to play today. They're very sophisticated, more sophisticated than they were a few years ago when they'd play almost anything. Today they want to play *Berzerk*. They want to play *Defender*. When we first put in the Atari *Football*, I saw this phenomenon taking place. We didn't start buying that game for all our stores, until we saw it was an attraction in itself. Then we started buying in duplicates for some stores. But I remember being in the office one evening and getting a call from some player who said he was driving around looking for an Atari *Football* and wanted to know our nearest store with one. Of course, I gave him directions, but it rang a bell about this coming phenomenon. I'd never seen that

before. That is an example of someone who is selectively looking for a specific game to play. More and more we are having that today. People want to play *Defender*. They want to play *Asteroids*. They've got to have that stuff. And that's what they're going to play. They're going for that specific reason.

PLAY METER: *What are your thoughts about equipment purchasing, as far as the number of games for available space in an arcade?*

ISAACSON: The operator, of course, should try to put in a balance of equipment that will maximize his return on investment and that will allow him to stay current with the trend in games. He has to look at his game purchases as not merely a one-time investment but as a continuing investment in his product.

I don't really think there are any hard-fast rules an operator can go by as far as his game purchases, though. The games are pretty much limited by the amount of space he has in his store. One of the things I'd like to point out at Sega Centers, however, was that just because you have a room of, say, 4000 square feet, that doesn't mean you have to fill it with 100 games. In some cases we found rooms with as many as 65 pieces, but when we analyzed it we found we were only getting an efficient return to about 40 games and beyond our 40th game it was a matter of diminishing returns.

When you stop and think that each of those games requires electricity and maintenance, parts, collections, and so, on, you realize like we did that it costs us money to have those games in the store. Because of this, I know of some arcade operators in various parts of the country who are partitioning off parts of the large spaces they're leasing and are not using them. They're paying the rent



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but would rather operate with smaller numbers of games than occupy all the space with a whole lot of games.

'Arcade operators in various parts of the country partition off part of the large spaces they lease and are not using them. They're paying the rent but would rather operate with smaller numbers of games than occupy all the space with a whole lot of games.'

I think it depends on the traffic at the location. And then, of course, there are some places where I have room for only 40 games and wished I had room for 50 or 55. It all depends on the traffic flow. So you have to consider two things: the size constraints of the store as to how many pieces you can get into the store, and then you have to consider how many pieces the store warrants.

There's only so much money around a given location, and I do not believe that in today's climate of games, people will pay to play just anything. That was the case a few years ago. If they couldn't get onto *Space Wars*, they would just as soon play a *Stunt Cycle*. But today people are more selective about what they're going to play. That's why we're seeing banks of the same game, banks of *Berzerk*, banks of *Asteroids*. That's what the public wants to play. And I don't think they're playing *Stunt Cycle*.

Also, there's something else to consider about having filler games on your floor. It's going to break down, and that's not good. You just can't put a big sticker on the game that says "Out of Order" and be done with it. You have to get it off the floor and into the backroom because by keeping pieces like that on the floor you're going to hurt your image.

So you have to look for the happy medium. A place that has too few games looks vacant and uninviting. And a place that has too many games looks crowded, especially if there aren't that many people playing. So you have to look at your location and the configuration of your store to decide what is best for you. There are all sorts of shapes for stores—long narrow stores, like bowling alleys, and so on. One thing we did before we put any games in our stores was use paper doll models of the games, based on their approximate sizes. We'd take a drawing to scale of the floor of our location, then we'd take the dolls and arrange our store before we ever put a game in so we would know what it was going to look like beforehand. You have to keep in mind what your store is going to look like.

PLAY METER: *What are you looking for as far as traffic flow?*

ISAACSON: In the front of the store, you're looking to attract people in. The store itself is the attraction; so it has to be visible for what it is. I once turned down a location in a mall that had a five-foot-wide entranceway that was forty feet long leading back to 3,000 square foot center. It was long tunnel, a very narrow hallway, and you had to know there was a huge cavernous game room inside or else you wouldn't have ventured in. So I didn't take the location. One of our competitors took it, and I'm sure he's doing very well with it since there are only so many malls and so many opportunities, but that's how

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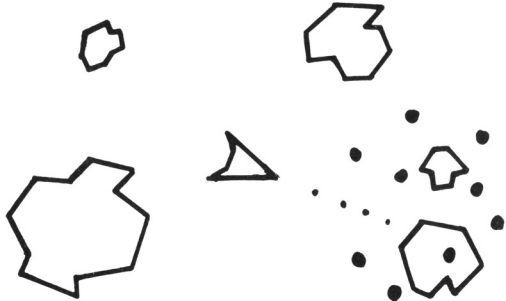
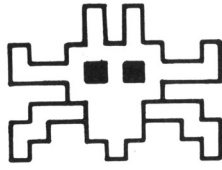
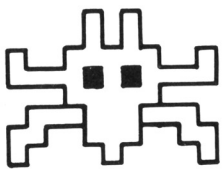
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important the store front image is to me. When I was with Sega Centers, we would make extensive use of mirrors, appealing colors, and very modern and appealing signs to attract the eye of the customer going by.

Now, as far as merchandising the equipment that goes inside, I think you'd want to put your best shot forward. So you'd want to display your best pieces up front, and that will attract them in. One of the reasons for banking like six Asteroids is because it has an appeal. It's a unique merchandising display.

PLAY METER: Should you, then, as a matter of rule put your hottest games right up front?

ISAACSON: I think you have to be careful not to put all your hot games up front in one area of the store because you want the traffic to flow all through the store. We used to put all our pingames in the back and the videos up front because the pin player would find those games and filter back there, and the video players would stay more or less up front.

PLAY METER: What are your thoughts about cocktail videos as far as their place in arcades?

ISAACSON: We had an operating theory that we would not have cocktail videos because it would allow people to sit down. What we wanted to avoid was people coming in and sitting down in chairs and throwing their bags on the floor and loitering, because then the arcade may become a hangout. So we always wanted people to stay on their feet and keep moving. But what we did was take the cocktail tables, build them up on pedestals, and make them stand-arounds. We liked it as a unique approach to games. We could stand it up in the middle of the store and not have to line it up against the wall like the other pieces, and of course, it made it easier for us to get hot games that we couldn't normally get in their upright models.

Now some operators, I understand, are using cocktail tables in their arcades for players to sit around, and they're being well-accepted. It just goes back to your personal operating philosophy and how you want to manage your traffic.

PLAY METER: At one of your seminars at the Amusement Operators Expo this year, you warned operators that, as far as the new games being marketed today, "We may be looking down the barrel of a bunch of Chryslers." What did you mean by that?

ISAACSON: I am very concerned by the tremendous influx of new equipment right now. From what I have

'From what I've been able to determine, the number of games being produced domestically is three times what it was a year ago

been able to determine, the number of games being produced domestically is three times what it was just a year ago, and that's not counting the imported games that are coming in by the boatloads. There is a screaming demand for equipment right now from the operating segment, and we distributors are not able to fill that demand; and the manufacturers, to meet that demand, are gearing up to produce even more. But, what I'm concerned about is that at some point the market is going to absorb all those pieces; and the reason I feel that, is

because with the rapid expansion of locations at convenience stores and places where games never were before, it may be growing too fast without a lot of forethought. If the locations are not managed properly, they could give this industry a negative image and create a legislative backlash that could hurt the further growth of this business. At the same time, the pipeline is running with games, and I feel we could reach a situation where distributors' and manufacturers' warehouses are backed up with equipment operators can no longer take,

What will happen is that the pipeline will be filled and the spigot will not be able to be turned off fast enough. It's like everything else, prices drop very quickly, and then you have a glut of games and a very fast depreciation of unsold inventory and inventory in operator's warehouses. The used market is very hard to tap right now. There are very few places where filler pieces are

'There are very few places where filler pieces are being accepted, and that goes back to having to have top games at all times.'

being accepted, and that goes back to my statement that you have to have top games at all times if you're going to be a successful arcade operator today. The hot game of today may be a filler piece in ninety days, and if there's no filler market, then obviously the price on your inventory drops very quickly.

PLAY METER: One last question, you are very concerned about the industry's image. Do you have any suggestions as to what can be done as an industry to help promote the good image of the games industry?

ISAACSON: First of all, the reason I'm concerned about the industry's image is because there are a lot of examples today of image problems in this industry. For that reason, I think the suggestion that was made during the Early Bird Keynote address at the AOE—that the industry should do some institutional advertising like other industries have done—is a good idea. [See *PLAY METER*, May 15 for a report on the Keynote talks. — ed.]

We have to sell the American public that this thing we offer them is fun, good clean fun, and that it's okay to have these machines. It could be done in a very convincing and wholesome way. An example of an industry that got together to sell a product was the milk industry, and it was very effective. I think the sales of milk went up considerably as a result. That's why I think we need to do some sort of institutional advertising—a sort of cooperative venture by manufacturers, distributors, and operators alike—with the sole intent of selling the public on the idea that our games are okay. It could also encourage people coming into the industry to follow that lead by seeing what a good place looks like, or should look like, and maybe that will head off some of that legislative backlash that I think could occur if our growth gets out of hand. And since we all plan to be in this business a great number of years, and since Gary Stern said at the AOE Keynote seminar, that we don't want to kill the goose that's laying the golden eggs, I think with everything we're taking out right now, maybe we should be putting something back. ●

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Arcade Operators Survey

Part II

In part one of this year's arcade survey, we learned about the relative size of the arcade side of the business. We now have a good idea as to how many arcades there are all across the United States, and the number of operators involved in arcade operations. We examined the various types of arcades and estimated the average number of games in each arcade. We found out how arcade operators handle serious problems, what systems of cash accountability they use, how they promote play, and how many are using tokens in their arcades, as well as other aspects of the arcade business.

In part two of this year's arcade survey, much of the attention will be focused on the actual games themselves—in particular, pins and videos. With all due respects to other types of games that are commonly found in America's arcades, videos and pins have been the two outstanding performers in arcades in recent years.

Up until recently, the pinball machine was the undisputed king of the arcade. But with the success of such games as *Space Wars*, *Space Invaders*, and *Asteroids*, videos have emerged as the top performing amusement device in the country. That's not to say that pinball is on the decline. In actual fact, pinball is just as popular as ever. The reason for the upsurge in video is that the games themselves have expanded the player base and have created a huge demand for video games. According to recent PLAY METER surveys, pinball earnings at the national level are holding more or less stable, and this should indicate that the pinball playing population is also remaining stable. Video, on the other hand, seems to be attracting more and more new players as each new game comes out. Video games, therefore, appear to be propagating their own player population at a

much faster rate than pinball. The obvious conclusion here is that video, by virtue of its broader player appeal and level of sophistication, is attracting more play than pinball, but not at the expense of pinball.

While pinball's earnings have remained relatively stable, sales of pinballs have decreased. The implication here is that pinball has not lost favor with the players but rather with the operators themselves. In a certain sense, the old guns and butter theory of economics seems to apply to the amusement industry just as well. The demand for video games has risen to such an extent that the operator demand—and, therefore, the production—of pins has dropped proportionately. Testimony to this fact is the number of pinball manufacturers that have diversified their product line by entering into the video games market. Witness such companies as Williams, Gottlieb, and Stern. We can see the effects of this development in this year's arcade survey.

We were interested in testing the mix between videos and pins in our nation's arcades. We were not surprised to find out that the videos outnumbered pins by an average of two to one; and, in some cases, the ratio was even three to one. The average arcade in the United States has approximately eight pinballs, while the average number of videos is fifteen.

An investigation of the current buying habits of the nation's arcade operators shows a dramatic difference between the pinball and video game markets. The following table illustrates the current demand situation for pins and videos.

Pinball Purchases	
Bought More	10%
Bought Same	22%
Bought Fewer	68%

Video Purchases	
Bought More	86%
Bought Same	10%
Bought Fewer	4%

While the above table points out the obvious differences between the demand for both videos and pins, it also illustrates the arcade operator's purchasing dilemma. It is apparent that money that previously was earmarked to buy new pinballs is now being used to buy more videos.

If arcade operators were willing to cut back their pin purchases in order to purchase more videos, they must be another reason in addition to player demand. Their rationale, according to this year's arcade survey, was proven to be in the cashboxes. Arcade operators participating in the survey were asked to report their average earnings for both pinballs and videos. The following table shows the current difference in earnings between pins and videos in arcade locations.

Average Weekly Gross in Arcades	
Videos	\$145
Pinballs	\$75

The difference here is not quite as startling. Both types of machines have approximately the same location life, or so it appears. One would conclude that pins are going to last long on location simply because they are not being replaced as soon as they should be. With most of the operators' money going toward the purchase of new videos, little if any is left over for the upgrading of pinballs. Pinballs are, therefore, staying on location longer than necessary.

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concerned with the question of service. Which is easier to service, pins or videos? We put this same question to the arcade operators and learned that 47 percent said that videos were easier to service than pins, while 27 percent said pins were easier to service. Another 27 percent said service was about the same insofar as service goes.

In defense of pinball, one would have to conclude that these results were rather predicatable. After all, a pinball machine is not only subject to abuse from player pounding but also to contend with the physical third dimension of a steel ball careening all over the playfield during play. These two factors alone, which are not present in videos, constitute the major cause of repairs in pinballs.

Last but certainly not least was the question of profitability in arcades. All indications led to the general conclusion that arcade operators

were making more money than ever before. This fact was borne out by the last question in the survey. The arcade operators were asked if their net profit after taxes increased during the past year, decreased, or stayed about the same as expected, 74 percent of the nation's arcade operators said they are experiencing an increase in net profits. Seventeen percent said profits were remaining steady, while only six percent reported a downturn in profits.

All in all, the outlook for the future of arcades in the United States appears bright. Public awareness and acceptance towards coin-op entertainment has increased drastically. The quality and sophistication of the games being manufactured today are far superior to the games of the past and have been major factors in attracting so many new players into the nation's arcades. ●

Star Castle 'copies' in court

In a case which may have landmark repercussions within the industry, Cinematronics, Inc. of El Cajon, California, has filed a \$6.5 million suit in U.S. District Court in Phoenix against a marketer of a game which Cinematronics alleges is an "exact copy" of its popular *Star Castle* video game.

U.S. District Court Judge Charles L. Hardy issued a temporary order to restrain a Phoenix man, Bernie Shapiro, from selling the alleged copycat games. He also authorized Cinematronics' attorney William A. Brockett to seize the copycat equipment and Shapiro's financial records relating to the equipment.

Cinematronics sued Shapiro for \$1.5 million in actual damages and another \$5 million in punitive damages for allegedly hurting Cinematronics' business by selling inferior products at lower prices.

Shapiro, however, was not available at the March 27 hearing to refute the charges that he had infringed on Cinematronics' copyright by importing equipment that uses the same cinematography.

A second hearing was scheduled the following week on a Cinematronics request for an injunction that would permanently prohibit Shapiro from selling the equipment. According to Cinematronics, the alleged copycat games duplicate *Star Castle's* copyrighted visual effects in their computer program and are reportedly so much like the

Cinematronics equipment that the Cinematronics trademark and copyright notice even appear on the visual display.

An affidavit accompanying the suit alleges Brockett hired a private investigator to buy one of the copycat games March 20. According to the affidavit, Shapiro told the investigator, Jack Palladino, that the game he was selling was an "exact copy" of *Star Castle*.

Cinematronics, which claims to have obtained a copyright of the game's visual effects in September, says it has committed \$15 million to the development of the popular video game.

Brockett told the *Phoenix Gazette* at the hearing that more suits may be filed across the country on behalf of Cinematronics. Said Brockett, "Whenever we can track this alleged copyright infringement down, we will try to stamp it out. Phoenix is just the first city."

But Brockett added that he didn't have any information that the games were being sold elsewhere in the United States.

Cinematronics was reportedly scheduled to go back to U.S. District Court in Phoenix April 16 on the matter.

Said David Stroud of Cinematronics about the suit, "This is the first time anything like this has been done in the United States. We think it may be a landmark case."

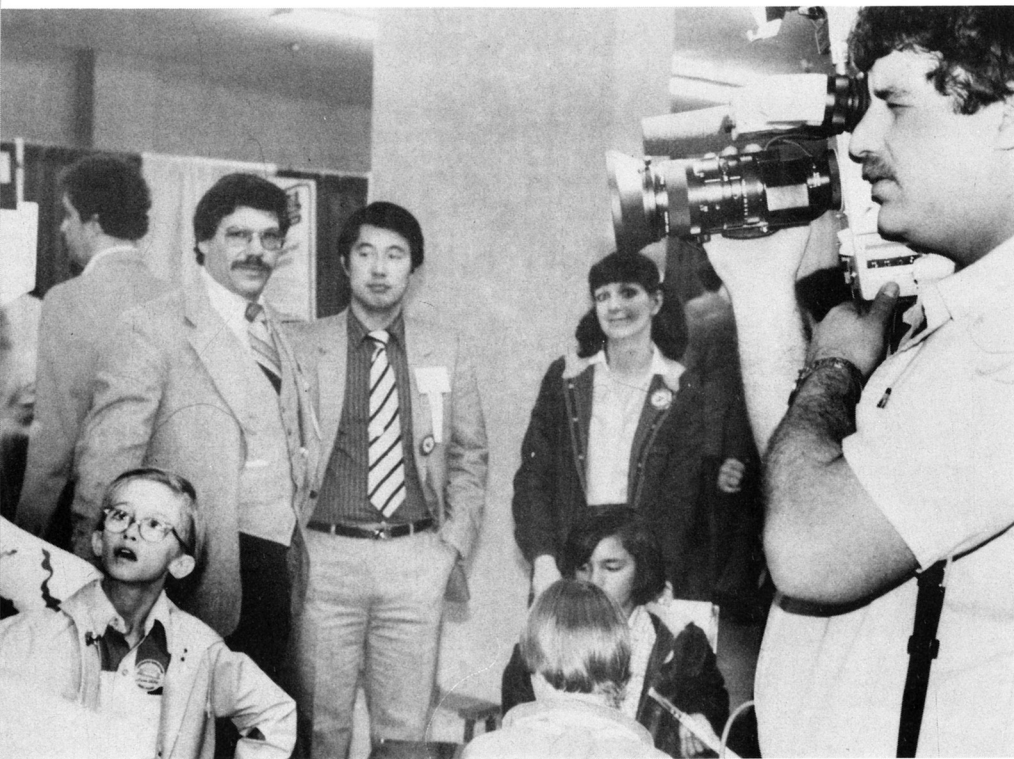


AOE '81



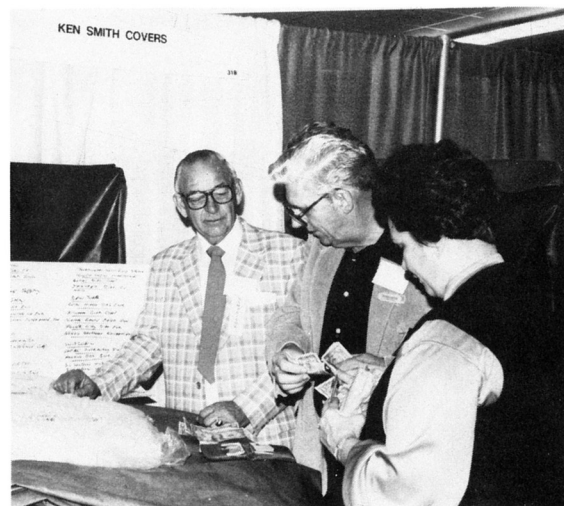
Big AOE Turnout:

Operators Claim Show As Their Own



Debbie Stroud of Cinematronics (top right) beams at the continuing interest in Star Castle. Bottom right: the show, to the surprise of some exhibitors, turned out to be a buying show. Universal execs (above) look on as TV cameras film the games; and Jim Douglass (immediate right) of Coinco explains the features of his company's coin door.

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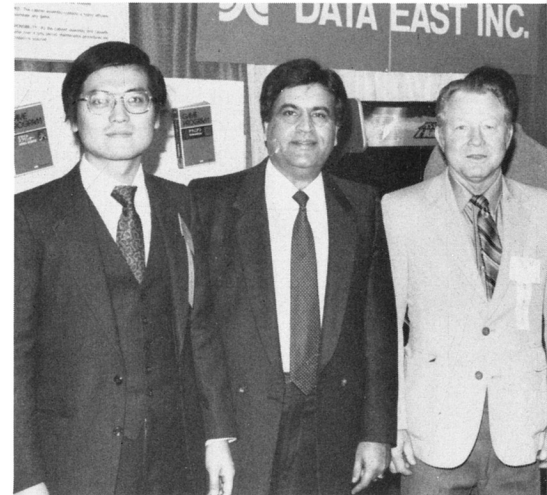
The reaction by exhibitors and "non-exhibitors" was one of utter surprise. After last year's first ever Amusement Operators Expo (AOE), many exhibitors left shaking their heads, saying a springtime show geared specifically for the operator would never succeed. The reason? Turnout.

It appeared very unlikely to many of these exhibitors that the AOE would provide the "draw" they needed for the show to be successful for them. There was never any question the wide-ranging seminar program was getting high marks from everyone, but there was a serious question as to how interested operators really were in a no-nonsense seminar program which dealt with the nuts and bolts of their operations. An industry trade show designed with the operator in mind, they said, would never succeed. So, many exhibitors left last year's AOE believing that, as large as the U.S. market was, there was room for only one national trade show, and that being the AMOA Show in the fall which is designed for distributors and for association members to conduct association business.

Thus, a considerable number of the manufacturers who exhibited at



The Gottlieb crew were thrilled with the tremendous reception to their Mars pinball. The aisles and games were crowded by the phenomenal turnout (left, bottom photo). Data East execs (below) reported doing a heavy business on their cassette game system. Jim Sneed and George Will of Kurz Kasch enjoy a light moment with an AOE attendee; and the Nichibutsu crew provided visitors a colorful oriental flavor—and a couple of strong videos.



the first ever Amusement Operators Expo of 1980 decided against exhibiting at the second annual AOE.

It was a mistake, as many of them said afterwards.

What they did not anticipate was the truly phenomenal turnout by operators who had heard from other operators who had attended last year that the show was indeed worthwhile. The word had gotten out to the rank-and-file operators, but apparently it didn't make its way back to the factories.

The result was a lopsided show—a large quality attendance, and a sparse showing of equipment with some of the industry's biggest factory names not in attendance. Consequently, major exhibitors who had opted to not show at the 1981 AOE have already expressed interest in booking space for the 1982 show, and some have already, in fact, booked the space.

For the operator, that means the third AOE will probably put it all together—with the large exhibitor representation needed and the solid turnout expected from the snowballing interest in the seminar program.

Less than a month before the

show, there was a definite trend of growing attendance at the show. And major factories, which had previously pted to stay out of the show, began to couch their bets by making sure their games would be on the floor of the show

Bally's new pinball game appeared in the booth of supplier Big State Supply of Fort Worth, Texas, a subsidiary of Wildcat Chemical Company. Williams' new pinball and the cocktail version of its first-ever video appeared in the U.S. Billiards booth (since principals of U. S. Billiards also operate a distributing firm which represents Williams) And Stern Electronics' new pinball and video found their way onto the floor of the show via International Totalizing Systems' exhibit.

It was a curious arrangement with some of the biggest manufacturers noticeably absent from the show but somehow present nevertheless.

Then as the people poured through the doors of the exhibit hall 10:30 a.m. March 12 at the Hyatt Regency in New Orleans, the exhibitors and "non-exhibitors" watched in utter disbelief. "Phenom enal," "fantastic," "great," "super," "totally unexpected," "amazing"—none of them had expected a turnout





Exidy crew, left photo (L-R), Diane Lockhart, Pete Kauffman, Chris Minarik, and Mike Wright showing Spectar in 3 models. At right: Brian Warkinton and Bob Timm of Willis Industries show their firm's colorful game applique products.

like this.

The operators had spoken, and the manufacturers were taking note.

Seminars dealing with such topics as location cost analysis, negotiating commissions with locations, arcade management and development, training servicemen, and other such information-packed sessions were well-attended, with an average attendance at each seminar of more than 100 (with five seminars running concurrently during most of the seminar periods).

Gottlieb's surprise

With one notable exception, the Chicago-area manufacturers had passed on the idea of exhibiting at the show, and that left the one Chicago area manufacturer beaming brightly at the end of the three-day show.

D. Gottlieb & Co, which used the AOE to signal its rebound and its return into the thick of the fray, unveiled a stunning pinball game called *Mars, god of war*. With captive balls, a raised tube, an innovative "Stargate" feature, and an astounding light and sound show, *Mars* drew crowds all three days.

"It's Gottlieb's best effort since, *Cleopatra*," said one veteran operator who watched as one player lit up the playfield with two balls

going at once.

"Pinball may be down," said another operator, "but there's a place for a game like that on my route."

Meanwhile, Gottlieb execs stood at an admiring distance—all with wide smiles on their faces. Rumors of Gottlieb's demise had been greatly exaggerated, they seemed to say.

Gremlin's big splash

But the exhibitor who, without a doubt, went into the show to make the biggest splash—and did—was Gremlin Industries. Previewing two new videos for the first time in the United States, *Astro Blaster* and *Pulsar*, Gremlin encouraged its distributors to attend the show to see something special from them. The result was, according to Frank Fogleman, vice chairman of Gremlin, a turnout of about 85% of Gremlin's distributors at the show.

On the second night of the show, Gremlin feted its distributors and previewed some new promotional videotapes of its *Astro Blaster* game to help promote sales of the solid video game.

Astro Blaster, a space battle game, may have been the hit of the show, but Gremlin's other video introduction, *Pulsar*, featuring an ever-changing maze and some very

unusual sound effects garnered more than its share of play.

Universal USA, which showed off a wide assortment of new videos in both the upright and cocktail configurations, displayed not only previously introduced *Space Panic*, *Zero Hour*, and *Magical Spot*, but a new game, *Devil Zone*, as well.

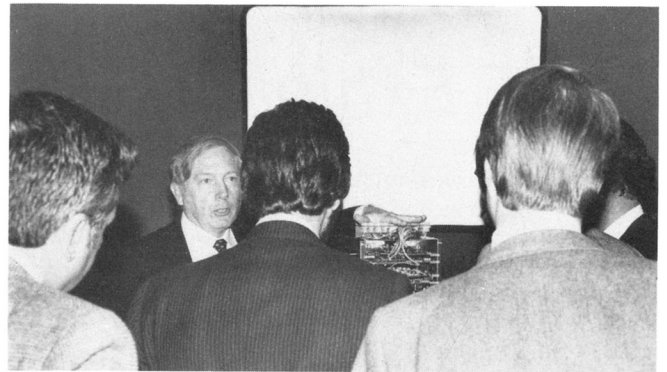
Another video firm which treated its distributors to a Friday night bash was Cinematronics, Inc, of El Cajon, California. Although showing only its upright *Star Castle* on the floor of the show, Cinematronics used its distributor fete to unveil its cocktail table market, made possible by the company's expanded production capabilities. The cocktail table features trim styling and the same play appeal as the upright *Star Castle*.

Another exhibit booth which drew more than its share of attention was Data East, which was introducing its revolutionary game cassette system. Satish Bhutani, executive vice president of the firm, said the response from operators on the cassette system, which was being actively marketed as of the beginning of the show, was phenomenal.

"Operators are tired of buying cabinets when all they need are the game cassettes," Bhutani told PLAY METER. He said the Data East



At the Nintendo booths, (L-R) Marketing Manager Ron Judy, visiting Pete Entringer of Audio Visual Amusements, and Minoru Arakawa, Nintendo chief. In right photo: Peter Lillios of International Totalizer, showing features of his interrogator system.



Left photo: Charles Ross and Bob Preismeyer of Innovative Management show computer system to AOE-goers. Frank Fogleman of Gremlin Industries (right photo) explains distribs new advances in the printed circuit board during cocktail hour.

cassette system is designed to be easily converted to take every type of game, with the exception of XY monitors. He said the game was designed to be adapted to space games, driving games, Trak-balls, etc. He noted that the games which would be offered in the Data East system will all be original games. "We have no intentions of copying anyone's games."

This raised the question as to how good the games offered by Data East would be and how frequently would they be available. He pointed to the company's newest game offering, *Astro Fantasia*, and said Data East was committed to coming up with a new game cassette every month.

Bally's *Eight Ball Deluxe*, snuggled away in the Big State Supply exhibit booth, attracted some play and good comments. In a period of bi-level pinballs and tube pinballs, *Eight Ball Deluxe* is a definite departure. The most outstanding feature of the game is the voice mode which actually tells the player which target to shoot for, a nice touch.

Williams' *Jungle Lord* bi-level pin with rapid-fire action and its *Defender* video (both in the upright and cocktail models) drew considerable attention at the show,

as did the other game in the U.S. Billiards booth, *Quasar*, a novel space game which is being marketed by U.S. Billiards as well as Stanley Levin Exports Ltd.

Stern Electronics' *Freefall* pinball, with an innovative feature which racks up the balls above the playfield, and its *The End* video game were, for the most part, used to demonstrate the International Totalizing Systems cash accountability system.

Exidy, sticking with its hit game *Spectar*, showed off the video in three configurations—upright, cocktail, and the trimmer upright "Classic" configurations.

Other videos exhibited at the show included *Tomahawk Missile* by Electro-Sport, *Crazy Climber* and *Moon Cresta* by Nichibutsu (which has retained the rights to market the latter game now that Gremlin has finished its production of it), and Nintendo's visually stunning *Radarscope* in upright, cocktail, and sitdown configurations as well as its *Helifire* video; and Game-A-Tron unveiled its *Space Bigger* TV game to the AOE crowds.

One video game which caused a stir at the show was introduced by Amusement World, a new company which showcased a video called

Meteors. *Meteors* resembles so closely Atari's *Asteroids* that, at presstime, Atari was considering legal action against the company.

One of the crowd pleasers at the show was the return of the video jukebox. Star Show Systems, which showed off its video tape jukebox at the 1979 AMOA Show, appeared this year at the AOE—to show an entertainment system that not only plays the record but also shows the singers performing the selection. The crowds tended to thin out, however, after they heard the price tag of the unit.

Wide variety

Elcon Industries showed off its counter top video packages, as well as its kiosk configuration which allows operators to repackage video games in other configurations than those offered by the factories.

Kiddie Rides/USA reported good business at the show. Showing off its line of kiddie attractions, such as the *Kiddierama* cartoon theater, *Bimbo*, and train and motorcycle rides, the firm drew more than casual interest from operators who in the past neglected this area of coin-op amusements.

The Valley Company used the opportunity of the AOE to introduce



Crowds came to the Universal USA booths: standing, sitting, and always playing and enjoying the current Universal games during all three days of the show; a packed exhibit, said Universal's President Paul Jacobs.

AOE Exhibitors' Remarks

"Everything was outstanding. We heard very good remarks about the workshops... For us, the turnout was phenomenal. We were impressed with the widespread attendance of operators at the show. It wasn't just operators from the Mississippi Delta. There were a lot of operators there from Canada, even western United States. So, overall, it was a good show for us. We were pleased to find the show successful and think that now it has found its place."

—Frank Fogleman, vice chairman, Gremlin Industries

"The show was just superior. As evidence of that, Gottlieb has already booked space for next year's show. In fact, we're the first major exhibitor who's already booked space for next year. That's how good the show was for us. The reception to Mars was fantastic, just great, at the show."

—Marshall Caras, vice president-marketing, Gottlieb

"I was very pleased. We saw people at the show from all over the United States. It was really a great turnout. And, quite frankly, we were surprised by it, surprised by the turnout and the quality of the inquiries."

—Jim Douglass, vice president-marketing, Coin Acceptors, Inc.

"It was a very pleasant surprise for us. I'm sure the attendance was higher than last year because the net effect for Universal USA was much, much better. Quite honestly, we were a bit skeptical as to how it would turn out because there wasn't much support from the Chicago-based manufactures. But our fears were well allayed. The seminar program seems to have brought them in. Our booth was literally packed for all three days. About sixty percent of our distributors were at the show, and we were very pleased by that."

—Paul Jacobs, president, Universal USA

"This was the best show ever for us. It was very lucrative for us, and we couldn't be more pleased. What can I say? Put me down for next year's show. The attendance, the enthusiasm—everything was phenomenal."

—Satish Bhutani, executive vice president, Data East

"The time of the show, the draw of New Orleans, the draw of the seminars—its definitely a show we were pleased with. We found the draw was better than what we expected."

—Pete Kauffman, president, Exidy, Inc.

"Everybody was surprised by the attendance at the show, that it attracted not only as many operators as it did, but also by the number of distributors who were in attendance. Over half of our customers were at the show."

—David Stroud, sales manager, Cinematronics, Inc.

"The show was very beneficial to us. It was very well organized, relative to other shows. The turnout of operators was strong, but it was the distributor turnout that really surprised us. I was surprised to find most of the major distributors down there. So, from our point of view, the show was a success. It was unfortunate that there weren't more heavy-hitting exhibitors at the show, but maybe that was to our advantage this time around."

—Ron Judy, marketing manager, Nintendo

"I thought it was surprisingly good, much better than what I expected. We found it was well attended by important buyers. The timing of the show was very good. We're going to attend again next year... We benefitted more than most probably because of the excellent reception to the new video we're introducing, Quasar."

—Richard Simon, executive vice president, U.S. Billiards

to many new operators its pool league concept. (For a complete report on the Valley pool league concept, see next issue.)

Other pool table manufacturers represented at the show, besides Valley and U.S. Billiards, included Dynamo and U.B.I.

Parts and supply houses exhibiting at the AOE reported good to acceptable business at the show. These exhibitors included Wico, Amusement Emporium, and OBA. A supply specialist, P.A.R. Products, introduced to the market its Fast Felt Pool Table Recovery Kit, which features pre-cut felt to fit standard sized tables.

Coin machine accessory exhibitors included Coin Acceptors, Inc. of St. Louis which reported an exceptional response to its front door assemblies; Coin Mechanisms, Inc. of Chicago, which showed off its 100 Series coin mechanism; and Innovative Systems of Muskogee, Oklahoma, which reported almost unbelievable sales at the show of its Model 102 Coin Sensor.

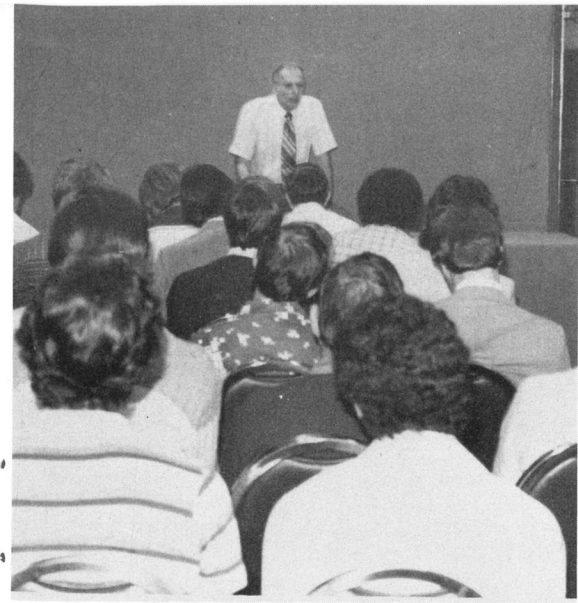
Kurz Kasch took the opportunity to display its electronic test equipment, and Ken Smith Covers introduced to the industry its vinyl/foam-backed protective covers for pinballs and upright and cocktail table games.

For the more progressive operators, two computer software companies—CAME Software systems and Innovative Management Consultants—demonstrated software packages designed for operators so that they can evaluate the profitability of their routes, their locations, and their machines. Other exhibitors included the token manufacturer Green Duck of Hernando, Mississippi, which reported a good response to its token line; San Diego Arcade School for mechanics; and Play More Games, a distributor which showed off the Tornado soccer table and some upright and cocktail videos.

Still, the absence—or near-absence—of some of the industry's biggest names cut down the amount of exhibit space at the show. And while this may have benefitted those who exhibited at the 1981 AOE, it most surely won't be a factor for the third such AOE, simply because the "non-exhibitors" are already talking about being in that number next year.

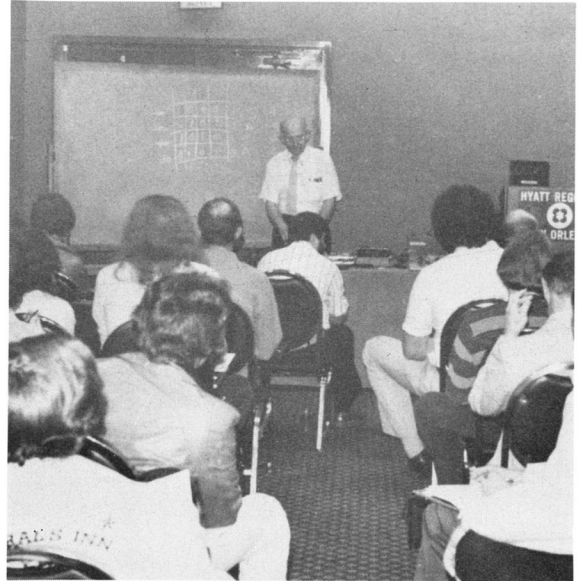
As one exhibitor said after the conclusion of the show, "The AOE has established itself as a "can't miss" show."

Drinking in the coin-op fount of information



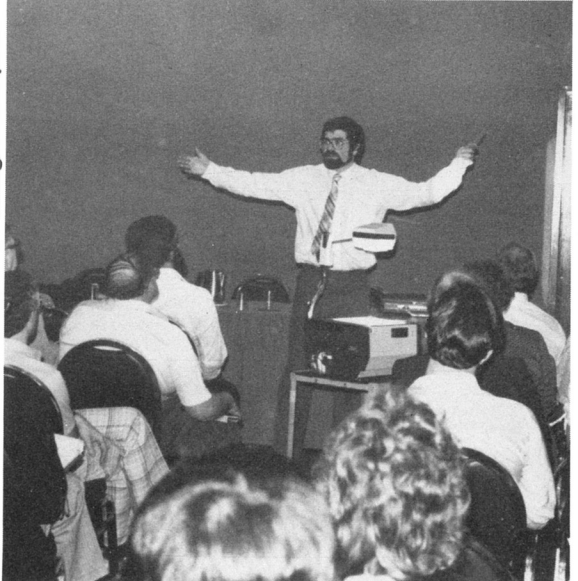
Art Seglin discussed training tech personnel: Determine first what you need them to know.

The New Orleans Show draws operators to classrooms



Two's a company, three's a crowd—but bring over 2,000 people in the coin-op business together, and you have a convention.

So it was at New Orleans' Hyatt Regency Hotel, where the second annual Amusement Operators Expo was staged March 12-14. Business was brisk around the conveniently located exhibit floor, and interest was likewise highly keen in the seminars, which each day averaged 100-plus in attendance per session.



Jim Sneed of Kurz Kasch led multi-part course on the current state of games technology.

The 2,000-plus coin-op people were consistently praising the informational sessions. As examples were Ken and Sally Taylor of Tarpon Springs, Florida, newcomers to the industry, who were attempting to soak up as much of the workshop material as possible. They signed for six seminars each, splitting their time to attend two during each 90-minute period. "I just wish we could go to a third one," said Ken on the exhibit floor.

Terri Clark was one of the delegation of four who attended from Bay-Mar Amusement, Carmi, Illinois, another new firm in coin-op. Collectively, their group attended 20 seminars to gain insight into the field. Their operation with 50 games presently is projected to quadruple its capacity by the end of 1981, he said. The support and supply exhibitors at the AOE were particularly valuable to him and his growing coin-op concern, said Clark. Michael Matanky came to the

AOE from Boulder, Colorado, where his Windy City Amusements was represented by six persons in attendance at New Orleans. Matanky commented that he enjoyed the flavor of the city when not at the show. He was interested in specialty equipment such as the strength testers on display, and the Windy City people had attended seminars with an aim on setting up a business computer system (one form of which was also on display at the AOE). If he could suggest an improvement in the show, he said, it would be to see a greater number of games on display.

Jim Butler was in attendance for the three-day show, coming from California and Pizza Time Theatres. The technical seminar sessions were especially informative to him, said Butler. "You have to go to 'the' show, the AMOA in Chicago," said Butler, "but it can't compare with the seminars here (at the AOE)."

Ralph Rolan, a Knoxville, Tennessee operator told PLAY METER at the show, "This is the first one I've been to. I like it and I've gotten a lotta good ideas."

At the conclusion of the AOE program, one Minnesota operator commented that the business guidance he had obtained "made the trip pay for itself."

Consequently, it was almost standing-room-only in many of the educational seminars—the topics of which ranged from the basics of



Filled classrooms were the rule at Amusement Operators Expo '81: An enthusiastic exchange of coin-op business ideas.

starting an arcade to promotional ideas for spurring trade to cash control and accounting.

The 31 seminars provided a "think tank" of expertise in the coin industry. Instructors and discussion leaders included: Steven J. Bodenstein of Six Flags Amusement Centers, Inc.; Steve Isaacson of S.L. London Music Company; Jon Daugherty, United Artists Theaters; Charles C. Ross, Innovative Management Consultants; Randy Fromm of San Diego Arcade School and PLAY METER technical writer; Ray Hibarger of Hanson Distributing Co.; Michael A. Babich, Rich Babich, and Jay Hannah of Automated Amusements, Denver; Stephen Goot, Atlanta operator; Jim Sneed, director of research and development with Kurz Kasch, Inc.; Carol J. Kantor, president of Business Builders marketing agency; Art Seglin of Hudson County, N.J. Area Vocational-Technical School; Doug Grear of the American Pinball Association; Chuck Arnold, Rowe International; Marshall Caras of D. Gottlieb and Co.; and Ralph C. Lally II, publisher of PLAY METER.

Thus the springtime AOE brought together enthusiastic operators, distributors, and exhibitors for business and education in a pleasant setting. In its second outing, the consensus was that the AOE had definitely taken its place on the coin industry calendar.

—by Ray E. Tilley

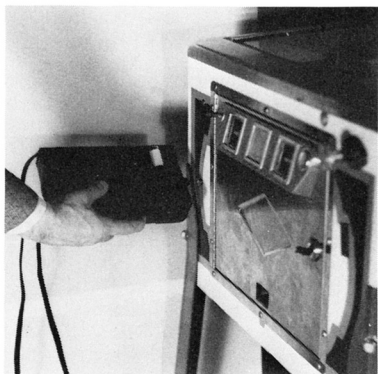


Carol Kantor, above photo gave convention-goers some guidance on promotional media. Michael Babich, at podium in photo below, and Rich Babich, at the projector, shared facts on business records and computer management systems.



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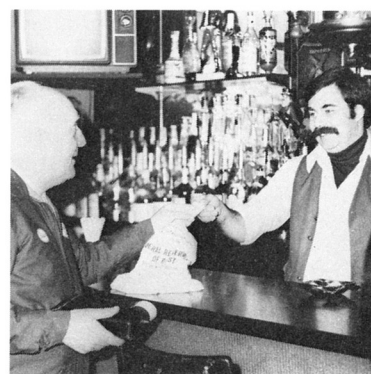
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Gaming equipment 'defined'

AMOA wants out of Las Vegas in '82

AMOA officials are attempting to negotiate out of a commitment to hold the 1982 AMOA Show in Las Vegas, PLAY METER learned after the AMOA Board of Directors mid-year meeting in Monterey, California on April 2-4.

Attention of the board was focused mainly in terms of the AMOA Show, which will again be held in Chicago this fall but which has been slated for Caesar's Palace in Las Vegas next fall. General problems in the coin-op industry were not examined in the three-day meeting, with the committees restricting themselves almost exclusively to the various details of the AMOA Show and the jukebox copyright law.

Although AMOA President Norm Pink and Executive Vice President Leo Droste had strictly "no comment" on changes in plans for Las Vegas as given deliberation in the board meeting (which was closed to reporters in the trade press), word out of the board was that its officers were empowered to negotiate out of the AMOA's commitment to Caesar's Palace for the 1982 exhibition.

Alternative sites for the 1982 show reportedly were not discussed at the Monterey meeting. "The feeling was that it was premature, since they didn't have a release from the Las Vegas commitment," said one board member.

Action taken by the board was to allow gambling equipment again in the 1981 show in Chicago, and a related action set the definition of "gambling machines" for AMOA's own purposes. The approved AMOA definition was not intended as a dictating measure for state associations to follow, board officers said. Nor should the definition be construed in any way as a stand by the national association to advise against the operation of the machines for the welfare of the entire industry, one board member said. "Gambling machines" were

defined by the board "to include all those machines or devices whose primary purpose is the direct or indirect award of chance-determined prizes."

Machines coming within these bounds will be accepted at the AMOA Show again this year but "will have to be labeled that way as they are shown. If the exhibitor removes that definition, it would be a cause to have the equipment removed," said a board member. This equipment would also be restricted from minors' playing.

Executive Vice President Droste explained that the definition would include video card machines, under their factor of chance in play, rather than a skill factor as in flipper pinballs.

President Pink said the definition removes the need to refer to "gray area" equipment such as the video card games. "We needed this to establish what equipment will be shown," he said. But the board specifically resolved not to force its definition on operators' state associations.

In other news, the board learned that the Copyright Royalty Tribunal will hear the AMOA's petition against jukebox location list requirements on May 15. Meanwhile, the CRT royalty rates appeal by the AMOA was pending in U.S. Circuit Court of Appeals in Chicago, with no date set for hearing by the press time of this issue.

Otherwise in the board meeting, President Pink reported the actions:

- To limit noise levels of equipment exhibited at the AMOA Show, a new policy will require "any exhibitor whose equipment exceeds 70 decibels (measured by a decibel measuring instrument) shall be required to reduce to the required range."

- Exhibitors will not be allowed to give out food and drinks at their booths anywhere in the exhibit hall. This rule followed the problem of discarded food on the floor, as pointed

out by exhibitors themselves, said Pink. The AMOA board also resolved to improve the appearance of the commercial food stands and provide seats at the show.

- The stage show at the closing of the exposition will be "upgraded with top name acts," with the number of entertainments de-emphasized. The result in quality is expected to be that the stage show will be "the place to be in Chicago on Saturday night" of the show, said Pink.

- The seminar program will be expanded at the show with several concurrent mini-seminars on Saturday and Sunday mornings. Pink commented, "The operators are changing: We have an entirely new breed, many with college educations or with technical backgrounds, who are coming there to learn. To meet their requirements, we are scheduling more seminars concurrently."

- The AMOA Jukebox Awards will be revised this year, eliminating the several categories and awarding on the basis of voting for the "ten most played on the jukebox, October 1 to October 1."

- The board established a Long Range Planning Committee, and it is composed of Wayne Hesch, chairman, and Jim Watkins, Richard Silla, John Estridge, Jack Kerner, Wes Lawson, and Hy Sandler, members.

The board voted to upgrade the AMOA's *The Location* newsletter with "more specific articles related to the industry," said Pink, with information to be included for operators on how to conduct business, and on service, legislation, and taxes. [See PLAY METER, January, 1981, reporting criticism of this and other AMOA services in the state associations conference at Chicago: "AMOA Must Do More," pages 26, 27.]

Pink said also that the association aims to foster a "grassroots campaign" in the legislative area this year, to buttonhole lawmakers on operators' problems. ‡

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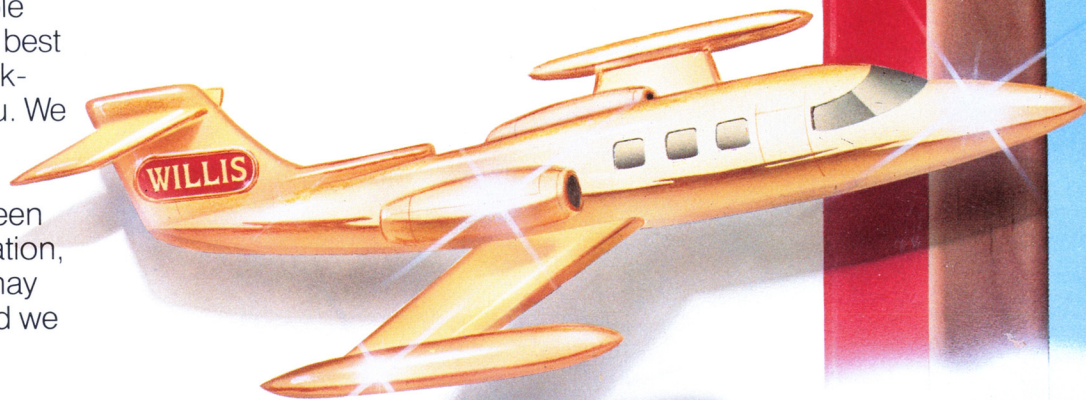
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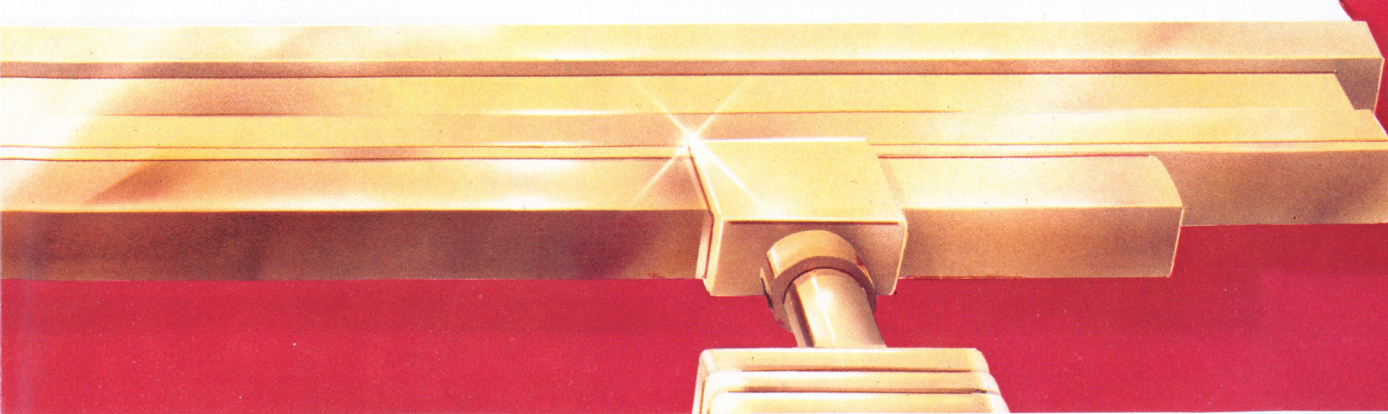


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The copying war: Games makers strategy meeting is held in Japan

TOKYO—Eight influential firms from Japan and abroad recently held their first meeting to work on the problem of copied games on the world market. In the March 9 gathering in Hotel Okura, Tokyo, the “International Association of Video Game Manufacturers” issued a joint statement.

It said, “We the members of the amusement machine industry hereby state our intention to make continuing and tireless efforts towards strengthening the industry on higher ethical standards so that the original work of innovators of new games will be highly regarded and their rights securely protected—so that all individuals can be sure that they will receive what they justly deserve, and so that the industry will be well-recognized by the public and worthy of its respect.”

Following their joint statement, Japanese video game manufacturing official Masaya Nakamura, president of Namco Limited, in his capacity as chairman of the Japanese Amusement Machinery Manufacturers’ Association (JAMMA) which came into existence in January 1981, stated: “A video game program, a form of motion picture, ought to receive the protection of copyright laws.”

The purpose of the March 9 meeting was to urge the concerned government officials to form a uniform policy that will insure legal regulation of video games.

The international meeting was opened as a result of a conference between JAMMA and ADMA (the Amusement Device Manufacturers’ Association, formed in Chicago last December). In attendance were four major Japanese companies—Namco, Nintendo Ltd., Taito, and Sega Enterprises—and from abroad, the U.S. firms Atari, Midway, and Exidy, and the Spanish firm Interflip.

At present, not only are incidents of copying and imitation common in Japan, but such incidents have been widespread in the European and American markets. Namco Limited’s Nakamura said, “Copies of nearly all of the products introduced last

*‘A video game program, a form of motion picture, ought to receive the protection of copyright laws.’
—Masaya Nakamura, of Namco*

October by leading Japanese makers were circulating in Japan towards the end of the year and in some cases, copies of these games appeared at the shows both in Chicago last November and in London last January.”

Moreover, as the situation stands, there has seemed to be no direct means of legally regulating such copying in the world marketplace, and if the problem is left to run free, it is feared that the sound growth of the industry will be hindered.

The Tokyo meeting opened with a lecture by Dr. Doi, an assistant professor from Waseda University, on the subject of “Legal Remedies for Unlawful Copying.” Following this, opinions were exchanged on the subject of copying in Japan, the

United States, and Europe, and policies for responding on the legal and technical fronts were discussed.

JAMMA officials announced that the next international meeting is planned for this fall in Tokyo, and that more manufacturers will be participating. The officials further said that the circle of participating countries should be enlarged to elevate the ethical standards of the industry worldwide.

Participants included Mike Kogan (Taito America), Lila Zinter (Exidy), J. Franco (Interflip), David Marofski (Midway), Hide Nakajima (Namco), Stan Jarocki (Midway), Joe Robbins (Atari), Hayao Nakayama (Sega), Lyle Raines (Atari), and Tokuzo Kinai (Nintendo Ltd.). ●



The International Association of Video Game Manufacturers met in Tokyo, March, 1981 to discuss the game programs piracy problem on the world market.

Effort is praised

Gray area games fail Ohio court test

Ohio operators through their state association have won the praise of top law enforcement officials for their stand against "gray area" games in the recent court action which resulted in draw-poker types of coin-operated videos being declared gambling equipment and in violations of state laws.

The Ohio Music & Amusement Association filed a "friend of the court" brief in the matter involving machines operated by Mills-Jennings of Ohio, Inc., which were ruled by a lower court to be games of skill. The state Department of Liquor Control appealed this ruling to the Court of Appeals in Franklin County, and the OMAA entered that appeal in support of the state's position.

This appellate ruling on March 24 favored the state's and the OMAA's stand. While the defendant, Mills-Jennings, could appeal this decision to the Ohio Supreme Court, an attorney for OMAA said, "technically, we have won the case." While the ruling lacks an "all-encompassing" nature, as in the definition of games of skill versus games of chance, it does set precedent, John Everett, OMAA's counsel, told PLAY METER.

Paul Corey, executive vice president of OMAA, said of the March 24 ruling that there had been "overwhelming support from its members, who are asking when the legal authorities are going to start picking up these terrible devices."

Effect may be felt at the stage of the case's being remanded to the lower trial court, which would overturn its injunction that had prevented the state officers from seizing machines which are now declared to be gaming devices and

illegal in Ohio. Of course, Mills-Jennings has the right to appeal such action.

Victory was claimed by OMAA after the March 24 decision, termed by Corey to be an "umbrella that will enable us to go after almost any gray area machine brought into Ohio."

The position taken by the operators association was saluted by Marc E. Myers, assistant Ohio attorney general, who prosecuted the case. To Corey and the OMAA he said in a letter dated March 20: "I appreciate your continuing support in assuring us that the amusement industry in Ohio is one that is marked by integrity and respect for the law."

The OMAA has stated that its stand was based on a desire to clearly define amusement games as games of skill rather than games of chance.

From the appeals court decision, members have already taken the precedent to local government officials as a landmark defining gambling equipment, Corey said, giving the example of Willoughby, Ohio, where operators presented the interpretation to the city council. (On the precedent-setting nature of various cases involving amusement equipment in Ohio, see PLAY METER, April 15, pages 48, 49: "Industry Watches Ohio.")

In its decision, the Franklin County Court of Appeals said: "The question before us is whether the draw poker machine is a gambling device which is prohibited on liquor permit premises by Ohio code....The term 'gambling device' is defined [as] 'a deck of cards, dice, gambling table, roulette wheel, slot machine, punch board, or other apparatus designed for use in connection with a

game of chance; any equipment, device, apparatus, or paraphernalia specially designed for gambling purposes."

In the decision written by Judge J. Norris, with Judges P.J. Strausbaugh and F. Moyer concurring, the court declared, "We need not decide whether the draw poker machine is 'specially designed for gambling purposes'...since we believe the machine qualifies as a gambling device under the 'game of chance' standard" of the state code. Under the Ohio law (R.C. 2915.10), "poker is a game of chance, as is any other game possessing the essential attributes of poker," said the appellate court, also noting that witnesses in the trial court had attempted to establish that playing the machine involves more skill than chance.

And, the three-judge panel noted, the issue of whether chance or skill may prevail in playing a poker machine was not weighed by the court; the General Assembly had said poker is a game of chance, "and that is the end of the matter."

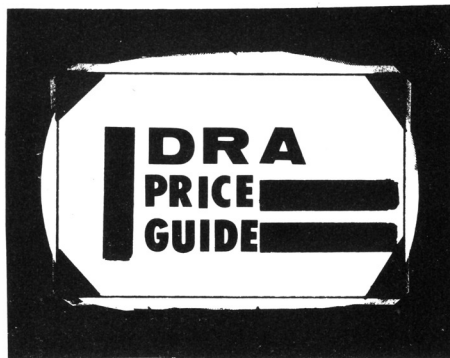
However, the lack of any further definition by the Franklin County Appeals Court did not appear to worry OMAA officials. And the reason for the amusement operators' confidence in the ruling may be found in the next paragraph from the appeals judges' decision:

"Plaintiffs (Mills-Jennings) argue that our decision should be governed by *Progress Vending versus Department of Liquor Control* (1978). That case is easily distinguishable from the one before us. In *Progress Vending*, we were confronted with the question of whether a pinball machine with 'flippers' was a game of chance. We were required to apply the skill versus chance test in that

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case because a pinball machine is not specifically listed as a game of chance in R.C. 2515.10 D. We are not required to apply that test in this case because poker is specifically listed as a game of chance in that section."

And the court stated: "We would point out that our conclusion would be no different if we were called upon in this case to apply the skill versus chance test. The result is unavoidable in view of the record—it certainly would not support a contention that playing the draw poker machine involves *more* skill than playing a real game of poker, and the Legislature has already said poker flunks the skill versus chance test."

Thus, said the appeals court, the trial court had been in error in invoking the *Progress Vending* decision in protection of the draw poker equipment. ●

Defender comes in cocktails

CHICAGO— Williams Electronics, Inc. has created an addition to its successful *Defender* video family. The newcomer, a two-player cocktail table, brings players the same game challenge that has won players' approval in Europe as well as the United States.

The *Defender* cocktail table model offers the video electronic system designed and developed by Williams that includes the most complete system of diagnostics ever programmed into a video game, said the manufacturer. For ease of maintenance, the printed circuit boards are mounted on a hinged, easy-access panel and the 14" screen easily pops up for servicing.

Williams' cocktail table is designed in wood-grain with classic flowing lines. This new *Defender* model is 27 3/4" high, with the height adjustable to a stand-up model with the addition of a matching wood-grained base. The addition of the cocktail table to Williams' video line allows all locations to take advantage of the challenge and profit possibilities of *Defender*, noted the manufacturer.

For the upright model, Williams announced in March, the company interrupted its run of games production for overseas orders and started domestic production on February 23. Distributors here and abroad had been eagerly awaiting the stand-up *Defender* for some time, said a Williams spokesman.

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'Income Misrepresentation'

Court action taken against on-location games sellers

LOS ANGELES—The California attorney general's office has filed civil suit against three out-of-state distributors of amusement games with the allegation that each of the sellers had misrepresented the amount of revenue that buyers could expect from the equipment.

The consumer protection unit of the state law enforcement department in February filed separate actions against Fascination International Inc. of Illinois, Leisure Time Electronics Inc. of Indiana, and Potomac Mortgage Co. of Dallas, Texas.

The defendants are not themselves manufacturers of the machines sold, said Senior Assistant Attorney General Herschel T. Elkins, and the machines were not defective equipment, but they were "of very low quality," he said. The sellers had stated to the game buyers that a definite, high level of income would be realized from the games on location, the state agency charges.

"Some of these people (buyers) won't make any money, and some will make a little," Elkins told a reporter. "But (the seller) couldn't substantiate any of its claims of huge profits."

State law covering what is called the "seller-assisted marketing plan" requires that when a market is promised for goods sold (and those goods cost \$500 or more), or when it is suggested by the seller that more money will be returned for the goods than is paid for them, then a disclosure statement about the facts supporting such claims must be filed with the California secretary of state's office. Secondly, the prospective customer must be given that same factual information. The state charges that the three companies at suit have failed to fulfill either of these requirements.

The defendants apparently made the majority of their sales in Los Angeles and San Diego counties directly to locations including bars and restaurants.

Machines were described in the civil suits as "electronic cocktail table pinball style and video machines." Elkins said his consumer

protection unit views the suits as a warning to the amusement games industry that the state law on misrepresentation of earnings claims must be complied with. That law went into effect on January 1, 1980.

In one of the three cases, sellers allegedly billed the games as having potential for paying back their costs within 18 months with a \$100 per week revenue intake per machine. In another instance, ten machines with an \$8,000 total sale price allegedly were sold after this supposed assurance of revenue had been made to the buyer.

In another of the cases, the seller allegedly promoted his game machines with a pitch that three pinball games and three video machines could earn a net of \$760 per week, or a \$38,000 net per year, and assured the buyer that the expected time needed to service machines for this income would be 30 to 45 minutes weekly. A "guarantee" of gross revenue that would equal twice the sale price of the machines within 18 months was allegedly made by this seller.

Along with this revenue guarantee, according to Elkins, the seller

contractually bound the buyer to secure locations that would produce the doubling revenue, and a stipulation was made that a subsequent purchase of games from the seller would void the terms of the first guarantee.

Elkins said the February suit filings were not the first consumer-protection type of actions made by the state against amusement machine handlers. But previous cases had involved "variety machines," or pachinko, he said.

Under the state law, the seller bears the burden of proving his own claims of high return on investment in equipment. If it is promised that a 100 percent return can be expected in one year, for example, the seller must show statistics to the buyer on his "reasonable" chances of attaining this level, the attorney general's spokesman said. He added that, in addition to the statutory requirement, the state will offer evidence that actual buyers in California did not attain the promised income levels from the games.

The state in these matters seeks (1) an injunction against the firms

[Continued on page 46]

Location contract stands court contest

A Michigan operator was recently awarded a substantial settlement after bringing suit against a location owner and a Michigan firm specializing in equipment sales to locations.

Leo Kalyvas of Union Music Co., Harper Woods, alleged in the suit that the location owner and the location sales firm conspired to breach a contract which Kalyvas had with the location. His claim was upheld in the district court of Macomb County, Michigan.

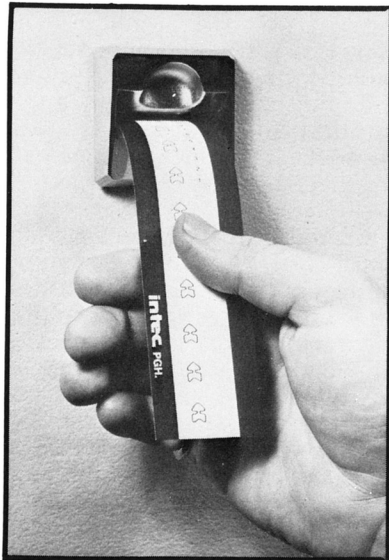
Although it took several years to complete, the suit was seen as a significant victory for operators who have contracts with their locations. In its opinion, the court said: "A valid contract existed between the

plaintiff and the defendant," and that the location sales firm "intentionally interfered with the contractual relationship between the plaintiff and the defendant."

Union Music was awarded compensatory damages, exemplary damages, repayment of advance commissions, and court costs.

Music Operators of Michigan's Executive Secretary Walter Maner III congratulated Kalyvas on this legal victory and commented, "It serves as encouragement for other operators who seek legal protection from unscrupulous location sales firms who prey on unsuspecting locations to make a quick sale of equipment."

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'Income Misrepresentation'

Continued from page 45

from making misrepresenting claims, (2) an injunction against their further transacting business in California without registering the required factual statements on equipment earnings and the companies' personnel and financial condition, and (3) a judgement of up to \$2,500 per person solicited for the equipment sales. In addition, "restitution to the buyers" would be sought, said Elkins.

Figures were not immediately available on the amount of sales transacted by the three companies, but Fascination International and Leisure Time Electronics had led in sales relating to the legal action, said Elkins.

One of the sellers allegedly had claimed to have "demographic studies" of the Los Angeles area to back their revenue claims, and these were not true figures, said the senior assistant attorney general.

At press time for this issue of PLAY METER, no court date had

been set for the related actions, but state attorneys and lawyers for the three firms were negotiating whether the three could come into compliance with state law.

Elkins confirmed a report by the *Los Angeles Times* that in the case of the Potomac Mortgage sales representatives, prospective buyers were told that a \$6,500 investment for ten machines would produce a \$300,000 annual profit within 18 months and that they could conservatively expect 70 percent to 170 percent return on their investment.

The state also contests warranty claims made in sales agreements for some of the equipment sold by the three firms, and the attorney general's office alleges that an escrow account was no established for money received before delivery of the machines.

Similar legal actions have been taken previously by the state law department in matters involving vending machines, said Elkins.

Stern moves in Europe

Stern Electronics, Inc., Chicago has announced the appointment of two new European distributors.

Stella Electronic Apparate GmbH of West Germany will carry Stern's coin-operated amusement games and Seeburg's phonograph product lines, said Tom Campbell, Stern's director of marketing. The mailing address for Stella is Schulenburger Landstrasse, 150 X-152, 300 Hanover 1, West Germany.

Also, Audex S.A. of France will distribute Stern's full line of games. The company is located at 47 Rue Sadi Carnot, 9330 Aubervilliers, France; telex 211 171.

The association with both handlers was effective immediately.

Tags Banner Specialties

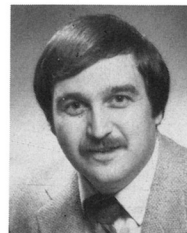
Stern Electronics also has announced the appointment of Banner Specialties of Philadelphia as a distributor of the Seeburg line.

The firm's mailing address is 1213 N. Fifth Street, Philadelphia, Pennsylvania 19122; telephone 215/ 236-5000. Allen Bruck serves as general manager.

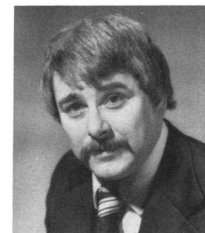
Stern Electronics has expanded its field service department with the appointment of John A. White as field engineer, said Marketing Director Campbell.

White comes to Stern from Chicago-based Jay Corp., where he served as national field service manager. In his new position, he will conduct service schools nationwide for Stern's game products and assist in the administration of the company's toll-free service "hotline."

White and his wife reside on Chicago's Northwest Side.



White



Maravich

Meanwhile, Stern has appointed Michael G. Maravich as credit manager.

Maravich formerly served as treasurer of August J. Johnson Co., Bensenville, Illinois, a cabinet manufacturer that was acquired in October 1980 by Stern Electronics.

In his new position, Maravich will supervise collection of accounts receivable for Stern's coin-op amusement machine and phonograph divisions.

He and his family reside in Lake Zurich, Illinois.


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Ohio operators prepare for the competitive '80s

Ohio operators have continued their efforts for industry improvements and safeguards with an intensive two-day seminar that sponsors termed "historic" in what it launched.

The program set by the Ohio Music and Amusement Association brought OMAA board members together February 25 and 26 with a wide range of outside experts who briefed operators on an important list of priority items looking toward the industry's future.

Among those who spoke were two persons who played key roles in last year's White House Conference on Small Business. Thomas Stadler, a partner in the national accounting firm of Deloitte Haskins & Sells, was "loaned" to the White House Conference as a professional staffer for six months and helped organize the event in Washington. Stadler told OMAA board members that 97 percent of the businesses in America fall under the heading of small business, and about 97 percent of the new jobs created in the U.S. last year by all companies were generated by such firms. Such statistics dramatize the impact small

business can have on the U.S. political scene if mobilized, Stadler noted.

Another speaker, State Rep. Larry Ballweg, also a delegate to the White House Conference, brought another perspective to the OMAA meeting. Ballweg operates a hardware store and told OMAA board members of the relationship between what takes place in Washington and their daily business concerns.

Other panel members over the two days included John Williams, a staff attorney to Ohio's Secretary of State Anthony Celebreeze Jr., who outlined specifics on organizing political action committees; D. Grant Mulgrew, associate executive director of the Ohio State Medical Association, who detailed how an effective PAC operates; M. Hurst Marshall, regional legislative director of the Tobacco Tax Council, who noted the impact of taxation on vending machine sales of tobacco products; and Warren Kelley, of The Valley Co., who addressed the value of statewide game leagues.

"The days are gone when operators can say, 'Every man for himself,'

and expect to get by," declared OMAA President James Hayes in explaining why the association spearheaded the program titled "Planning for Tomorrow."

"We've organized OMAA into committees whose members roll up their sleeves and produce. Each member knows that as the industry prospers, so will he. Challenges to the integrity of the business—like these electronic 'gray area' games—in fact are challenges to each individual operator. By banding together, we're achieving far more than we ever could have alone," Hayes said.

OMAA, already one of the nation's most active state organizations, hosts the largest one-state operator exposition, this year on May 8 and 9 in Columbus. A pioneer in organizing technical seminars for operators' staffs, the association also has been active on legal fronts, filing a friend of the court legal brief with Ohio's attorney general in his suit against "gray area" games.

Agenda

Most recently, OMAA's committees have developed a package of new service activities, which Hayes said he feels "will serve operators during this complex decade of the 80s."

Among the committee recommendations were:

Developing a mobile display, probably in a van, that will travel Ohio's 88 counties to provide law enforcement and other government officials with first-hand evidence of new gambling devices and how they differ from legitimate operator equipment offerings;

Gathering statistics that can be usefully shared within the industry, including figures on taxes, employees, certain expenses, etc.;

Implementing new educational programs, such as a two-day management seminar patterned after OMAA's program;

Expanding OMAA's newsletter to include monthly service tips provided by manufacturers and others;

Researching statewide insurance programs and taking bids when possible for joint fire, theft, hospitali-



Talks on politics: At the OMAA seminar, the program included (left to right, above) John T. Williams, legal counsel of the Ohio Secretary of State Office; Paul A. Corey, OMAA executive vice president; James H. Hayes, OMAA president; Melvin Pearlman, public relations chairman of Musikipac political arm of the operators association; and D. Brent Mulgrew of the Ohio State Medical Association (speaking on how a political action group operators).

zation, etc., for OMAA member firms;

Writing public relations packages that can be used by local members (speeches, photo ideas, fill-in-the-blank press releases) to improve their communities' perception of the industry;

Documenting increased costs of doing business by pooling member-supplied information and making resultant material available to those who should have it;

Organizing a political action committee to help supportive legislators and holding training sessions for operators in developing contacts on the local and state levels politically;

Informing operators on how their legislators vote on issues of concern to them as small businessmen;

Columbus show is bulging

The top-rated Ohio games and music trade show is expanding for its seventh edition, May 8-9. Sponsored by the Ohio Music and Amusement Association, the annual extravaganza will bring together top U.S. manufacturers, distributors, and operators from Ohio and neighboring states at the University Hilton Inn, 3110 Oletangy Road, Columbus.

"We've expanded the show to include every inch of available exhibit space," said Tommy Thompson, '81 OMAA Expo chairman, "because we've put together the biggest and greatest exhibit in our seven-year history. In addition to a list of exhibitors that reads like a 'Who's Who' in the trade, many industry concerns will be thoroughly studied and discussed at the Friday and Saturday seminars."

Thompson stated the '81 Expo—open only to operators, manufacturers, and exhibitors—will provide the attendees, their staff and guests a wide variety of "family-type entertainment." In the "Buckeye Spirit," he said, OMAA will sponsor a golf tourney at Hickory Hill Country Club on Thursday, May 7, honoring Ed Shaffer, a leading distributor who died recently.

Another attraction will be a drawing for a Rowe jukebox courtesy of Rowe International and Shaffer Distributing Co. Thompson said other prize drawings will be held during the two-day program for registered operators.

Exhibit hours will be 3—6:30 p.m. on Friday, May 8 and 1:30—6 p.m. on Saturday, May 9.

The Friday seminars will feature

Preparing model ordinances that can be submitted to local councils to ward off attempts to ban all amusement machines;

Drafting "blue sky" legislation for the Ohio General Assembly to review.

"The follow-through of these committees has been excellent, and I'm confident that many, if not most, of these ideas will be implemented," said Hayes. "We already have more than 100 members—better than 90 percent of Ohio's operators—and, through activities like these, OMAA returns high dividends to every member.

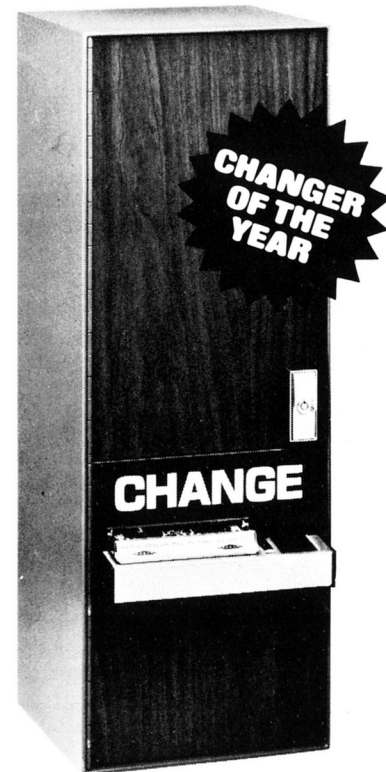
"That goal," Hayes stressed, "is what belonging to a trade association should be all about. I think we're achieving it in Ohio." •

three prominent Ohio attorneys who will discuss major litigation affecting the industry. They are Assistant Attorney General Marc E. Myers and OMAA Legal Counsels J. Richard Lumpe and John K. Everett.

The Friday banquet will feature an entertainment group and the installation of officers by Ohio Supreme Court Chief Justice Frank D. Celebreeze Jr. The Saturday session will feature discussions with M. Hurst Marshall, regional legislative director for the TTC; Warren Kelley of The Valley Co.; Charles H. Burhan, TAN's Ohio director; and a speaker on monitors, to be announced. Marshall's keynote topic will be "The Operator's Role in Today's Economy." On Saturday, the President's Luncheon will feature AMOA President Norman Pink and AMOA Executive Vice President Leo M. Droste. Special guests will be the "Guardian Angels," veteran Ohio operators returning this year to respond to questions on selecting and servicing a location, public relations, and other matters.

As of March 30, the signed exhibitors included: Monroe Distributing, Shaffer Distributing, Cleveland Coin, Royal Distributing, Central Ohio Sales, Abloy Security Locks, Amusement Emporium, Danny Vegh, The Valley Co., WICO, The Tobacco Institute, J-S Sales Co., Priority Cigarettes, Kurz Kasch, P&G Records, Mobile Record, Kimco, Pepsi-Cola, R.J. Reynolds, Northern Record, D&R Supply, Brown & Williamson, Phillip Morris, Scan Coin, Poland Manufacturing and Cleveland One-Stop.

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International Datelines

Ruling bodies have decisions to weigh on Euro coin trade

By Play Meter's International Desk

Government involvement in the future of the coin-operated amusement industry and gaming in general throughout Europe has rarely been as evident as it is today.

In Great Britain, Austria, and the Republic of Ireland, in particular, the respective "corridors of power" hold echoes destined to outline each nation's future in the industry.

The stringent budget delivered to the British Parliament early in March had little or no effect on the coin-operated amusement industry, but the Chancellor of the Exchequer, Sir Geoffrey Howe, had already thrown the industry into some kind of turmoil with his decision to introduce new 20 pence and 1£ coins.

The 1£ coin will be welcomed, the British Amusement Catering Trades Association (BACTA) and the Automatic Vending Association of Great Britain (AVAB) having jointly put forward proposals for such a coin earlier. The 20p coin, however, is not necessarily accepted as being the perfect answer in the two associations' claim for a coin more practical, falling between the current 10p and 50p coins in use.

Changing currency presents considerable problems and such

moves are rarely taken in haste. The British pound has far less purchasing power now than the old ten-shillings note which was replaced by the controversial 50p coin twelve years ago, and the number of 10p coins needed in constant circulation to meet demands is astronomical.

One aspect of the industry in Britain bound to benefit from the new coinage will be the jukebox trade. Price of play on a U.K. jukebox today is generally 10p with eight plays for 50p and the offer of three plays for two 10p coins as an intermediate choice. The rising price of records and the constant royalty demands from the Performing Rights Society has already brought about a call for the price of play to be hyped to 20p.

The introduction of the new coins could well make such a switch more acceptable to the British public.

Illegality in Austria?

In Austria an urgent call for nationwide legalization has been lodged, following a government purge—initially against tax evasion—which could result in all forms of coin-operated machines other than vending being made illegal.

Instead of having one ruling body for the whole of Austria, there are

nine! And each is different. The fault appears to be with the government because it cannot make up its mind to accept the public's wish to play machines.

Damaging publicity earlier this year in the Austrian press did little to persuade the authorities to look favorably on the industry, its trade and, of course, its revenue.

A tax evasion purge was highlighted throughout the coin-op industry as raids on operators' homes and offices led to jailing for some, and voluntary exile for others has not helped the image.

Everything that has been said of the current Austrian problem has created further complications. A proposal from the Austrian trade association served on Parliament has not met with approval. Consequently, the Austrian association officials organized a prestige-building trip for a party of journalists from their national press and television, in the hope of repairing some of the damage. The journalists were taken to the successful IMA Show in Frankfurt before being flown out to Reno and Las Vegas.

The state of Ireland

Not under the same duress as their Austrian counterparts, the Irish trade associations (surprisingly,

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there are two) have launched a major campaign in which they are asking their government for a new gaming and lotteries act.

The Irish, in fact, are taking great strides in establishing themselves correctly and have recently been elected to the European trades association, Euromat, through the IATA—the Irish Amusement Trades Association.

The IATA states that a new gaming and lotteries act should make provision for the licensing of individuals, companies, and premises engaged in the amusement trade to be uniform throughout the Irish state. This is not the case at present, as the 1956 act is an adoptive act. The licensing of book-makers and their premises, on the other hand, is not subject to such restriction.

The IATA wishes that a local authority which has already been adopted through the 1956 act by resolution should be empowered to rescind such a resolution. This is a serious issue at present and the livelihood of some of its members and their employees is at stake.

It also proposes that two categories of gaming machines be legalized. The first would allow a maximum stake of five pence and a maximum prize of five pence; the second would allow a maximum stake of ten pence and a maximum prize of 50 pence. The lower priced machines would be for use in shops, cafes and other such places open to the general public; the second category of machines would be restricted to persons of mature years and be in premises such as amusement arcades, public houses, book-makers' offices, etc. •

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—from 'Notes and Quotes' on arcade game token usage, by Van Brook of Lexington, Inc.

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DIGITAL CIRCUIT DESIGN COURSE

Lesson Nine: NAND/NOR Gates

Editor's Note: The material below is a serialization of the Kurz Kasch correspondence course for electronics, designed specifically for the coin-operated amusement industry. This course is copyrighted and owned by Kurz Kasch of Dayton, Ohio and its reprinting is being sponsored jointly by Kurz Kasch and Play Meter magazine. This material is authorized for publication exclusively by Play Meter magazine.

In this lesson, the student will learn to design logic gates involving transistors connected in series and parallel. These gates, though inverters in nature, perform the basic NAND and NOR logic function.

Truth Table

A	B	X
0	0	1
0	1	0
1	0	0
1	1	0

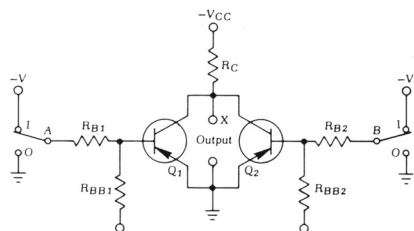


Fig. 9-1: A two input NOR gate using transistors connected in parallel. The circuit consists of two inverters sharing the same RC.

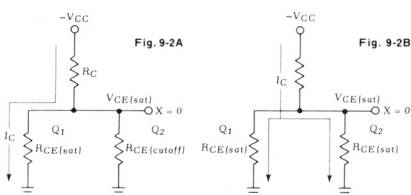


Fig. 9-2A. Equivalent circuit of a two input NOR gate with one input at a high level and the other at a low level.

Fig. 9-2B. Equivalent circuit with both inputs at a high level.

NOR Gates:

The circuit shown in figure 9-1 is a two input NOR gate. Notice that each input, A and B, has a transistor associated with it. The configuration affords a maximum of isolation between the inputs. This gate is particularly useful when each logic input is from a different device.

The circuit can be thought of as two inverters sharing the same RC. Each transistor must be capable of saturation when it alone is driving RC.

Circuit operation:

When inputs A and B are at a logic 0, both transistors are cutoff and the output, X, is at a logic 1. The leakage current [ICO] for each transistor will add in the collector circuit. For this reason, the base circuit must be reverse-biased at elevated temperatures, when the transistor is cutoff.

When either input A or B is at a logic 1, one of the transistors is saturated and the output is at a logic 0. This operating condition is illustrated in figure 9-2A. Notice that all of the collector current flows through the saturated transistor.

When both inputs A and B are at a logic 1, both transistors are saturated and the output is at a logic 0. Notice in figure 9-2B that the collector current is shared by both transistors.

Design procedure:

STEP 1: Design an inverter as outlined in Lesson Four [PLAY METER, April 15 issue].

STEP 2: Find the base overdrive when all inputs are at a logic 1.

The base overdrive

$$= \frac{\text{the actual } I_B}{\text{the required } I_B}$$

The required I_B is the base current required to saturate the transistor. It can be found by use of this formula:

$$I_{B(\text{req})} = \frac{I_C / \beta_{(\text{min})}}{N}$$

Where the term $I_C / \beta_{(\text{min})}$ is the same used to find I_B for the inverter and N is the number of logic inputs to the gate. The actual I_B is the current actually flowing in the circuit 2 or 3 times $I_C / \beta_{(\text{min})}$.

Design Example:

Design a two input NOR gate which will drive a 6V, 150 ohm lamp. The circuit configuration is shown in figure 9-1. Use a PNP transistor type 2N404. Make $V_{BB} = +3V$ and R_L .

STEP 1: Design an inverter as outlined in Lesson Four.

STEP 2: Find the base overdrive when both inputs are at a logic 1.

Base overdrive

$$= \frac{\text{the actual } I_B}{\text{the required } I_B}$$

$$= \frac{2.0\text{ma}}{0.4\text{ma}} = 5$$

The required $I_B =$

$$\frac{39\text{ma}/50}{2} = 0.4\text{ma.}$$

The actual $I_B =$

$$2 \text{ or } 3 \text{ times } 39\text{ma}/50 = 2.0\text{ma.}$$

When both outputs are at a logic 1, the transistor is being driven by about five times the base current needed to saturate each transistor.

NAND Gates:

The circuit in figure 9-3 is a NAND gate. Notice that the inputs

Truth Table

A	B	X
0	0	1
1	0	1
0	1	1
1	1	0

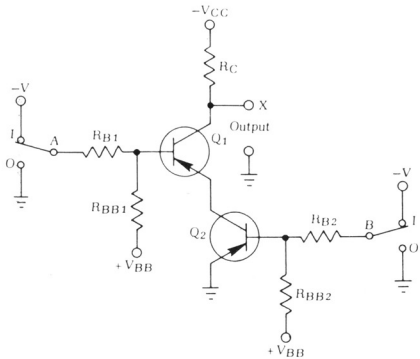


Fig. 9-3. A two input NAND gate using transistors connected in series. The current consists of two inverters using the same R_C .

are directly applied to transistors and transistors are *in series*. This circuit has the advantages of the NOR gate of the previous paragraphs.

The circuit can be thought of as two inverters connected in series with R_C .

Circuit operation:

When both inputs A and B are at a logic 0, both transistors are cutoff and the output, X, is at a logic 1. When either input A or B is at a logic 1, the output is at a logic 1 because collector current is inhibited by the off transistor. However, when both inputs A and B are at a logic 1, both transistors are saturated and collector current flows. The output is then at a logic 0.

Design procedure:

STEP 1: Design an inverter as outlined in Lesson Four.

$$I_C = \frac{|-V_{CC}| - |V_{CE(sat)}|}{R_L} = \frac{5.9}{150\Omega} = 39\text{ma}$$

$$I_B = 2 \text{ to } 3 \text{ times } \frac{|I_C|}{\beta \text{ min}} = \frac{39\text{ma}}{50} = 0.8\text{ma}$$

$$I_{BB} = \frac{I_B}{10} = \frac{2.0\text{ma}}{10} = 0.2\text{ma}$$

$$R_{BB} = \frac{|V_{BB}| + |V_{BE(sat)}|}{I_{BB}} = \frac{3.3\text{V}}{0.2\text{ma}} = 16\text{K}$$

$$R_B = \frac{|(-V)| - |V_{BE(sat)}|}{I_B + I_{BB}} = \frac{5.7\text{V}}{2.2\text{ma}} = 2.7\text{K}$$

STEP 2: Find I_C for the transistor

closest to ground.

$$I_C[Q2] = I_C[Q1] + I_B[Q1]$$

Since all of the currents through a transistor are seen in the emitter, the lower transistor must be capable of saturation while providing not only I_C but also I_B for the higher transistor. The problem may become acute when many transistors are in series. (Refer to figure 9-4.)

End of Lesson Nine.

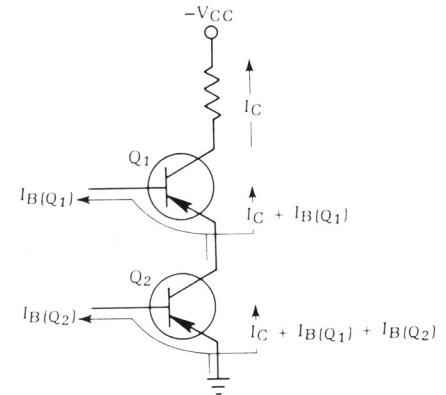


Fig. 9-4. The distribution of the currents through a two input NAND gate.

PROGRAMMED TEST/9

Instructions: The purpose of this test is to guide you step-by-step through actual circuit design problems. Also, the tests in the Digital Circuit Design Course will provide you with additional design technique. Most important, these tests will provide you with a gauge to establish your degree of understanding of the material covered in the lesson text. The test is programmed: start at block 1 and follow the numbered instruction associated with your answer. Complete your work in the appropriate block.

1

Design a three input NOR gate with an R_C of 2.4 K. Use a silicon NPN transistor with a beta of 25. Make $V_{CC} = 6\text{V}$, $V_{BB} = -6\text{V}$, and $V = V_{CC}$. The first step is to design _____.

- a. NOR Gate GO TO BLOCK 11
- b. An inverter GO TO BLOCK 21

2

$$I_{BB} = 1/10 \times 0.25\text{ma} = 0.025\text{ma}$$

Did you get the same result? If not, do not go on but check.

What is R_{BB} ?

$$R_{BB} = \underline{\hspace{2cm}} \text{ GO TO BLOCK 20}$$

3 YOU ARE CORRECT!

If I_C remains the same when all three transistors are "on," then the base drive required to saturate each transistor is _____.

- a. One-third GO TO BLOCK 24
- b. The same GO TO BLOCK 13

4 YOU ARE INCORRECT!

The actual I_B is determined by the input voltage, in this case, V_{CC} and R_B . RETURN TO BLOCK 24

5 YOU ARE CORRECT!

You have completed the test for Lesson Nine.

In the test a new approach was tried. We considered the transistor as an ideal device. To prove that the results will be the same, go back through the calculations, but this time account for $V_{CE(sat)}$ and $V_{BE(sat)}$.

9

$$R_B = \frac{6\text{V}}{0.275\text{ma}} = 21.8\text{K}$$

Use 22K.

Did you get the same result? If not, do not go on but check.

What is V_B ?

$$V_B = \underline{\hspace{2cm}} \text{ GO TO BLOCK 23}$$

10

$$I_C = \frac{6\text{V}}{2.4\text{K}} = 2.5\text{ma}$$

Did you get the same result? If not, do not go on but check.

What is I_B ?

$$I_B = \underline{\hspace{2cm}} \text{ GO TO BLOCK 22}$$

11 YOU ARE INCORRECT!

The basic circuit of a NOR gate is an inverter. The first step is to design an inverter which will switch V_{CC} across R_C . RETURN TO BLOCK 1

12 YOU ARE INCORRECT!

When a transistor is saturated, I_C is determined by the Ohm's Law value of V_{CC} and R_C . Refer to the formula for determining I_C used in BLOCK 21 of this test. Also refer to Lesson Four. Then return to BLOCK 23.

13 YOU ARE INCORRECT!

The base current required to saturate one of the through transistors is determined

by I_C and β . In this case, the current through each transistor will be approximately $1/3 I_C$.

RETURN TO BLOCK 3

14 YOU ARE CORRECT!

If the collector current for each is approximately $1/3 I_C$, then by how much is each transistor overdriven?

- a. Three times. GO TO BLOCK 25
- b. 7.5 times GO TO BLOCK 5

20
$$R_{BB} = \frac{6V}{0.025ma} = 240K$$

Did you get the same result? If not, do not go on but check.

What is R_B ?

$R_B =$ _____ GO TO BLOCK 9

21 YOU ARE CORRECT!

Design an inverter taking the approach

that the transistor is an ideal switch when saturated; that is, drop $V_{CE(sat)}$ and $V_{BE(sat)}$ from the calculations.

What is I_C ?

$I_C =$ _____ GO TO BLOCK 10

22

$$I_B = \frac{2.5ma}{25} = 0.1ma$$

Use 0.25ma

Did you get the same result? If not, do not go on but check.

What is I_{BB} ?

$I_{BB} =$ _____ GO TO BLOCK 2

23
$$V_B = -6 \frac{22K}{262K} = -0.5V$$

Did you get the same result? If not, do not go on but check.

We now have the basic switch element for the gate.

When all three of the transistors in the gate are saturated, I_C will _____, as compared to when only one transistor is "on."

- a. Triple GO TO BLOCK 12
- b. Be the same GO TO BLOCK 3

24 YOU ARE CORRECT!

What is the actual I_B for each transistor when all three transistors are saturated?

- a. $1/3$ of 0.25ma GO TO BLOCK 4
- b. 0.25 ma GO TO BLOCK 14

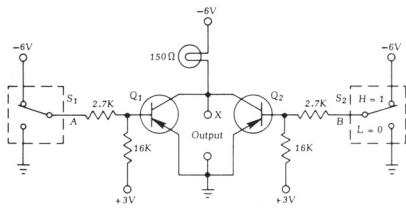
25 YOU ARE INCORRECT!

The transistor was overdriven by 2.5 times in BLOCK 10. Then when all three transistors saturated, it is overdriven by three times more or 7.5 times in all.

RETURN TO BLOCK 14

BREADBOARD PROJECT/Lesson Nine

NAND/NOR Gate Design



Truth Table

A	B	X
0	0	1

1. "Wire up" the circuit in figure 1 on the breadboard. Before applying power, set S1 to the low (L) position.

2. Apply power, both -6V and +3V. The lamp should be off. When both inputs are at a logic 0, both bases are reverse biased. A voltmeter (if one is available) would indicate V_B as positive. This operating condition is illustrated in figure 9-2A.

With bases of Q1 and Q2 positive, the output is at a logic 1. The top row of the Truth Table illustrates this logic condition.

3. Set S1 to the high (H) position. The lamp should come on.

When S1 went to the high position, a logic 1 was applied to input A and transistor Q1 saturated. The output, when Q1 saturated, went to a logic 0. This operating condition is illustrated in figure 9-2B. The student should state this logic condition in the second row of the Truth Table.

4. Set S1 to the low (L) position and S2 to the high (H) position.

The lamp should remain on. This operating condition is the same as the above, except that the logic 1 has been applied to input B. The student should state this logic condition in the third row of the Truth Table.

5. Set S1 to the high (H) position. The lamp should remain on.

A logic 1 is now applied to both the A and B inputs, and both Q1 and Q2 saturated. This operating condition is shown in figure 9-2C. The student should complete the Truth Table by stating this logic condition in the last row. The Truth Table should be the same as the one in figure 9-1.

The logic operation performed is NOR.

6. "Wire-up" the circuit in figure 2 on the breadboard. Before applying, set both S1 and S2 to the low (L) position.

7. Apply power, both -6V and +3V. The lamp should not come on.

With both switches in the low position, a logic 0 is applied to both inputs. Transistors Q1 and

Q2 are both cutoff and the output is at a logic 1. The top row of the Truth Table illustrates this condition.

8. Set S₁ to the high (H) position. The lamp remains *off*.

Transistor Q₁ now has a logic 1 applied to its input. However, the transistor cannot saturate since Q₂ is cutoff and no collector current can flow. The output remains at a logic 1.

9. Set S₁ to the low (L) position and S₂ to the high (H) position. The lamp remains *off*.

Transistor Q₁ is now cutoff, preventing Q₂ from saturating.

With Q₁ cutoff, the output remains at a logic 1. The student should state this logic condition in the third row of the Truth Table.

10. Set S₁ to the high (H) position. The lamp comes *on*.

A logic 1 is now applied to both inputs, and Q₁ and Q₂ are saturated. When both transistors saturate, current will flow, and the output will fall to a logic 0.

The student should complete the Truth Table by stating this logic condition in the last row. When completed, the Truth Table should compare to the one shown in *figure 9-3*.

The logic operation performed is NAND.

Breadboard projects will appear with various lessons in this course. Kurz Kasch has suggested that operators and technicians interested in completing the breadboard projects could find the suitable hardware being offered by AP Products of Euclid, Ohio. AP Products, which markets through electronics hobby distributors and radio and television parts supply houses, offers an inexpensive breadboard. Components for the individual exercises can be gotten from Radio Shack outlets or from the operator's own inventory.

PLAY METER CALENDAR

May 8-9

Ohio Music & Amusement Association, annual convention and trade show, Columbus Hilton Inn, Columbus

May 8-10

Music and Amusement Association / New York annual convention, Kutsher's Country Club, Monticello

May 23-26

U.S. Tournament Eight Ball Championships, Chicago

May 28-31

First International Valley 8-Ball League Championships, Kahler Hotel, Rochester, Minnesota

June 4-7

Music Operators of Texas, annual meeting, Houston

June 5-6

Wisconsin Music Merchants Association annual convention, Holiday Acres, Rhinelander

June 11-13

Illinois Coin Machine Operators Association, annual meeting, Lincolnshire Marriott, Lincolnshire

July 24-26

Amusement & Music Operators of Tennessee, annual convention, Hyatt Regency, Nashville

September 11-13

North Carolina and South Carolina coin operators' associations' combined annual convention, Carolina Inn, Columbia

AMOA Seminar meets goals

CHICAGO—The Ninth Annual AMOA Seminar was held at the O'Hare Hilton March 6 and 7. The program for this year, again arranged through the College of Business Administration and the Center for Continuing Education of the University of Notre Dame, drew an attendance of 90 persons and reportedly met its objectives.

The format for the 1981 seminar combined speaker presentations and small group discussions of issues relating to the operator and his position in today's economy and the amusement industry.

Dr. John Malone, speaking at the AMOA seminar for the eighth time, addressed "Defensive Strategies in a Recession Economy." For his presentation, Malone looked at the "typical operator" and his options for fighting negative economic conditions. Strategies explored included capital budgeting, inventory planning, and analysis of both his own business and the locations served.

A panel presentation on "Operating in the '80s" was presented by John Estridge, an AMOA director, and Robert Nims, a past president. Estridge covered the topic of acquisitions, realistically evaluating equipment, close and thorough evaluations of location contracts, and frank evaluations of personnel. Nims addressed the problem of the rising cost of equipment. In light of this increased cost, operators must know their locations and utilize a

valid testing procedure in order to make wise decisions on equipment purchases, he said. Also, a good working relationship with the distributors is essential in order to derive valuable information to assist the operator in his business, Nims recommended.

Dr. Gerry Sequin opened the second day of presentations with "Effective Organization and Management of Human Resources in a Small Business" as his topic. The highlight was his analysis of results of a survey Sequin had distributed to operators registered for the seminar. Comparisons were made between management and non-management evaluations of operators' businesses.

The seminar was concluded with a "back-by-popular-demand" speaker, Dr. James Wittenbach, CPA, who addressed areas of both personal and corporate tax planning. Attendees were urged to become completely aware of options which can be used in personal tax planning—including income averaging, charitable contributions, and retirement accounts. Wittenbach pointed out several non-taxable transactions, tax credits, and deductions which are not normally utilized to their full savings.

An AMOA spokesman said, "Without a doubt, the AMOA again met its objective for this seminar: to draw on the knowledge of practical, experienced academics, and participants and successful operators to help our members do a better job of managing employees, resources, and customers."



FRANK'S CRANKS

By Frank Seninsky

The End and Phoenix :

Two new videos seen from a troubleshooter's view

THE END/Stern After having reviewed Stern's *Berzerk* (PLAY METER, April 15), I was somewhat disappointed with *The End*. What could have gone wrong? Stern had done such an excellent job with *Berzerk*; the logic boards and power supplies could slide out from the front panel on a track, a 110-volt outlet was provided...I called Lou Rudolph, the field service engineer for Stern, and was assured that the reason for eliminating many of the improved features had to do with accommodating a licensed system. Stern basically just took an already built system and fit it into its own cabinet. This will be the last piece that Stern will license. From now on Stern Electronics will design all of its own games.

The coin door is exactly the same as that on *Berzerk*. It is strong and reliable and I can see no reason to complain about it. The cashbox is the same sturdy Stern type. The cashbox can be seen from the back of the game but Stern plans to have a completely sealed cashbox area in its next game.

The logic boards are mounted vertically so the components can be seen and worked on while in the game. The volume control is located on the CPU board but should be on the front door. The power supply is screwed to the bottom of the cabinet but is in a vertical position. This is better than having the power supply board lying flat on the bottom because there is less chance of stray metal pieces falling on exposed components. However, the transformer is now on the bottom of the

cabinet and is fully exposed to falling metal parts. The monitor can be taken out easily if it has to be repaired. In essence, *The End* is an easy game to work on but not as easy as *Berzerk*.

For some unexplained reason, a coin meter was not installed in *The End* uprights. (I'm told that coin meters have been installed in all *The End* cocktail models.) The wires and diode have been installed. Stern will provide coin meters to those who have purchased this game, at no extra charge.

The color monitor schematic is very large and easy to read. It is a full "Size D" drawing (3' x 2'). In the future Stern will further improve its schematics by using three colors—red, blue, and black to distinguish between the address lines, data lines, and all other lines.

The +5 volt section of the power supply has been redesigned. Stern has eliminated the use of the old LM323 to develop the +5 volts. A 2N6121 and a 7805 are now used instead. This will reduce the medium to high failure rate experienced in past games. If something goes wrong with the +5-volt section, the 6121 transistor will shut down and no further damage to other systems can result. This practice is called "crowbarring". On future Stern power supplies, all other critical supply voltages will be "crowbarred."

PHOENIX/Centuri After having some problems with its wooded monitor mounting brackets coming loose during shipment of the *Eagle*,

Centuri has "beefed up" the *Phoenix* cabinet. Metal brackets held in by large carriage bolts have been added to reinforce the entire monitor area. Metal brackets were not used on *Eagle*. The monitor screen is almost vertical—which not only gives the player a better view of his objectives, but also makes it easier for the spectators to watch the action.

From a troubleshooter's standpoint, all of the monitor components are easy to get at and test. All adjustment controls (contrast, brightness, vertical hold) are located at the rear of the monitor.

The two logic boards are mounted with foil facing foil, which is the second best way to mount boards (the best way being to have all components on one board, if space permits). All of the components are thus facing outward and can be troubleshot on location in the game. The volume control is located on one of the logic boards, which makes operator adjustment difficult.

The transformer is placed on the bottom of the cabinet floor instead of on a cabinet wall where it would be out of the way of falling nuts and bolts. However, the transformer has no open terminals, so the possibility of short-circuiting the transformer is reduced.

The power supply is especially well-designed. The test leads for +12 volts, -5 volts, +5 volts, ground, and 110 volts are all clearly marked and located on a terminal block facing the rear of the cabinet.

The *Phoenix* comes with the "Deluxe Coin Acceptor Door" just

**'On future Stern power supplies, all other critical supply voltages
will be crowbarred.'**

like Atari uses. As stated before, the main fault with this door is that breakable plastic coin return flaps are used instead of the much more durable metal flaps. The players are just breaking off the coin return flaps and flipping pennies up the chutes.

The whole cabinet is generally well constructed. The cash box area is totally separated from the rest of the game, making a theft of the cash box from the rear of the game more difficult. The chances of having a coin get into the power supply, logic board, or monitor areas are small. Screened vents have been placed in both the top and bottom of the cabinet to reduce the head build-up, which reduces component failure. The purpose of the screen is to keep components (nuts, screws, bolts) from falling out of the cabinet and being lost and to keep dust out.

An overlay has been placed on the front control panel. This overlay is textured and cannot be burned by cigarettes or scratched. Centuri contends it is virtually indestructible.

This will help keep the *Phoenix* looking clean and attractive when other games' front panels have become worn and burnt.

The side cabinet designs start about three feet from the bottom of the cabinet base and go to the top. The areas from the bottom to the three-foot level are of a dark color. Black is usually used on the front. These lower areas are prone to scuff marks from the shoes of frustrated players and it's therefore a good idea to use dark colors for these areas. Having the designs three feet from the base greatly reduces the possibility of having the designs kicked and marked or scaped up. I have seen scuff marks on the top of cabinets, so maybe someone can design a scuff-proof coating.

A handle has been placed on the rear top of the cabinet to make it easier for one person to tilt the game backward onto a hand truck. The on/off switch is located on the game, which tends to make it harder for small kids to get at it. Children seem

to love to turn off games when they run out of money, so no one else can play. This usually means a service call and lost revenue.

All in all, I feel *Phoenix* is a comfortable game to play. Taking into consideration the positive fact that all of the controls are buttons, there is very little maintenance required on this game.

Write Frank...

It's good to see that there are people out there who will send in their comments and ideas. Please send a note to "Frank's Cranks" if you have any service tips that will be of interest.

Games for review next issue will be *Defender* and *Gorf*.

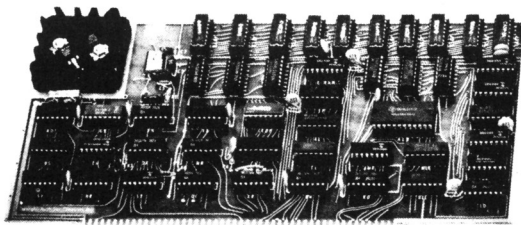
[Ed. Note: Contributor Seninsky is president of Alpha-Omega Amusements, Inc. which operates a route including over 50 college game-rooms and Wizards' World Arcade on the New Jersey shore.]

'A textured overlay on the Phoenix front control panel cannot be burned by cigarettes or scratched.'

This will help keep the game looking clean and attractive.'

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MUSIC PROGRAMMING

The best of the scarce

Unfortunately, the new material continues to be as scarce as snow in New Orleans. There is just a bit—and we've scrounged up as many as we could. So, I'd like to lead off with the best of the lot.

I Missed Again—Phil Collins—Atlantic/3790

He's new, sort of. In case the name skips past your recall, he's the drummer and lead singer-songwriter par excellence of Genesis, the 1980s purveyors of orchestral rock. With this initial release from his debut solo lp, Collins changes musical directions somewhat. I think the change is temporary, but a refreshing one all the same. The sound is new! Replete with a scintillating brassy sound, the only things recognizable are the vocals and maybe the drumming. Look for lots of appeal to teens and young adults, leaning male. Which, of course, spells a sure 9 out of 10 hit for Phil.

Say You'll Be Mine—Christopher Cross—Warner Brothers/49705

I thought for sure after all the Grammy notoriety and platinum album status, Chris would complete a new lp before now. But, keeping up with the norm, the record company has decided to drain the debut album of a fourth single. Whenever an lp is depleted this far, the results are usually disastrous. But the song is catchy enough to sell as a single, Nicolette Larson is easily recognizable on background vocals, and the

favorable exposure certainly hasn't hurt the big man from Texas; 10 out of 10 possibilities.

What Are We Doin' In Love—Dottie West—Liberty/1404

If you don't listen to it you'll never know that Kenny Rogers sings with Dottie. And if you don't listen, you'll never realize the true beauty of it. Their voices blend so well together, and the time is right for Dottie to have her first crossover Top 40 hit—with a little help from her friends—10 out of 10 on highest chart.

Living Inside Myself—Gino Vannelli—Arista/AS 0588

A new label, but the same Gino. And that's good. The melody is there once again on this tender love ballad with typical introspective lyrics. As in the past, the synthesizers of brother Joe lead the way and provide the perfect intense backdrop for the artist to sing his song and melt the ladies' hearts...again! Give this a 10 out of 10.

Watching The Wheels—John Lennon—Geffen/49695

The third cut is the deepest, once again. One of the more personal songs from the *Double Fantasy* lp will be the third consecutive hit. It's lyrically about the time in his life when he was "house mother" to his son. The outlook is one of "I don't care what you think—I'm me"... which is certainly a long way from "I don't want to spoil the party," but equally as effective; 10 out of 10.

Bette Davis Eyes—Kim Carnes—EMI America/8077

Jackie DeShannon wrote it and Kim Carnes' gravelly vocals in the mode of early Bob Dylan carry the song. The lyric is as peculiar as a song with a title like this could be. The beat supplied by the bass drum and the whipping sound of a synthesizer are the hooks along with the unusual, yet interesting lyrics. A good summer record; girls will get into this one; 9 out of 10 to be sure.

Lonely Together—Barry Manilow—Arista/AS 0596

From the same album which brought us "I Made It Through The Rain"—Barry—the current kingpin of the romantic ballad scores big once again with a lushly orchestrated song of an aching heart. Written by Kenny Nolan ("I Like Dreamin'"), it's a natural for Manilow. Great lyrics and a perfect arrangement compliment each other on this good as gold hit record: 9 out of 10 at least.

Lately—Stevie Wonder—Tamla/T54323F1

It's a torch song from the word "go." Stevie's smoother than silk vocals highlight this song from the *Hotter Than July* lp. The background instrumentation is simple yet effective. Basically it's piano, and string bass throughout. A true piano bar ballad: a beautiful love song. Could go Top Ten, so I'll venture a 10 out of 10 guess.

KEEP YOUR EYE ON GPI

KILLER COMET



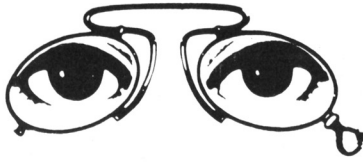
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New Bally pin ...

Well, it does seem like old times this time around because the one game we'll be looking at is almost a throwback to another age, and yet it couldn't be righter for the present. Admittedly, there was always the fervent hope by this writer, once there was a such thing as a multi-level playfield or even a multi-ball game, that those qualities which tended to make these types of machines special and different wouldn't be overused, abused and, worse, replace the standard design game. I was willing to accept the notion that for an interim period everyone would follow the pack and show that they too could do it, because that is the nature of the coin-machine business, whatever the type of game, and probably always will be.

But my great fear was that manufacturers would blindly throw away the old rules and try to change everything in the hope of attracting back players. It was a misplaced concern, since the players who have always liked pinball will find their way to it if the games are interesting and challenging—which doesn't necessarily mean more balls on the field at once or even more levels on the field. Instead, it means a well-thought-out game designed by purposeful programming and enhanced by all the glitz of speech, flashing lights, bold artwork, whatever.

And so it was with these feelings and apprehensions that I faced the new games coming through the chute and realized that everyone was just trying to get his act together, and that maybe things would once again venture back into those features that make pinball—pinball, and make it the unique

attraction that is: that balance of skill and luck and the placement of features on a board that can satisfy the novice as well as the die hard player.

This isn't to suggest that the game we'll be focusing on this month has accomplished all these things, but it was a relief to see it and then play it and realize that maybe there was going to be some sanity back in pinball and that things, design in particular, might just be put in perspective.

This need for normalcy can't be stressed enough if pinball is to begin recapturing a regular playing audience that isn't attracted, initially, because of the glitz and, instead, is challenged for something more than just a few curiosity-inspired plays. By the same token, things must also continue to evolve. Interestingly, some games we'll be looking at in upcoming issues appear to be pretty exciting, especially the newest Gottlieb effort, *Mars*, and Williams' *Jungle Lord*. The hope, however, even after looking and playing these two is that the basics won't be forsaken over the long haul.

On another, more ominous, note is something which occurred in New York at the end of March. There was a firebombing of a Brooklyn pinball arcade which injured four boys and touched off a near panic among parents who live near the Franklin Square, Long Island location. Beyond the outrage and fear of such an event, editorials in the local papers were quick to point out that as a result resistance has stiffened regarding existing arcades or those wanting to open. From a story in the *New York Post* came this account: "We are terrified," said Priscilla

Parks. "We've been expecting it to happen here." She was one of 100 parents who demonstrated yesterday in front of the 30-game Foosball World, 1057 Hempstead Turnpike, Franklin Square. "We are sitting on a time bomb," said Patricia Friedman, president of Garden City South Community League.

"I don't know what that firebomb was meant to say," said Linda Capozziello, a mother of five. "But it sure said something to us." The parents fear the vandalism and burglaries of cursing, fighting, urinating, beer-drinking teenagers they say the arcade attracts every night. Even worse, they say, is the violence they associate with mob takeover attempts.

The Brooklyn bomb accelerated opposition to game rooms throughout the New York area, said William Cohn, attorney for Foosball and other arcades. "It alarmed people already upset by the arcades," he said.

Foosball World owner Daniel DeLuca has been threatened several times and was nearly struck by a car, he told officials two weeks ago, and an employee's car was overturned. "We don't want to wind up on the front page of *The Post*," said Rosemarie Bates, another mother. Hempstead Deputy Town Attorney Jeffery Stadler went into state Supreme Court in Mineola, New York for an order closing the parlor on a zoning violation. The case will be heard next month."

Admittedly, this isn't the type of news anyone would like to hear, but it's out there all too frequently and really not too much can be done, except for self-regulation by owners and local distributors and associa-

Critic's Corner

By Roger C. Sharpe

seems like old times

tions in terms of setting up particular standards and guidelines for locations to follow if they have more than some minimum number of games. The idea of arcades and game rooms continually being thought of as hang-outs whether they're in malls or on some street corner, has always plagued the business and will continue to do so unless there are some steps taken to remedy the situation. I know that it's difficult to police inside one's game room as well as outside, but there must be a simple solution to stem much of the fear that is felt. I know of many people who won't even go into some locations because of what they have to go through just to get inside. It's something to think about, especially if you're one of those absentee owners who can't understand why business might be off.

Knowing the nature of the business, nothing will probably happen to get the industry's act together. It's a shame because one senses the growing need for some overall governing agency that would set up specific parameters for different types of locations, by which everyone could co-exist. There will possibly be a backlash of publicity and location closings, at least in New York because of the bombing incident and maybe other areas around the country will also suffer the same fate, but for the most part business will go on as usual until some other controversy stands in the path of profits.

But that's the way of the world and I've been around too long now to expect anything different than what has been done in the past. And so it's time to move on to the game

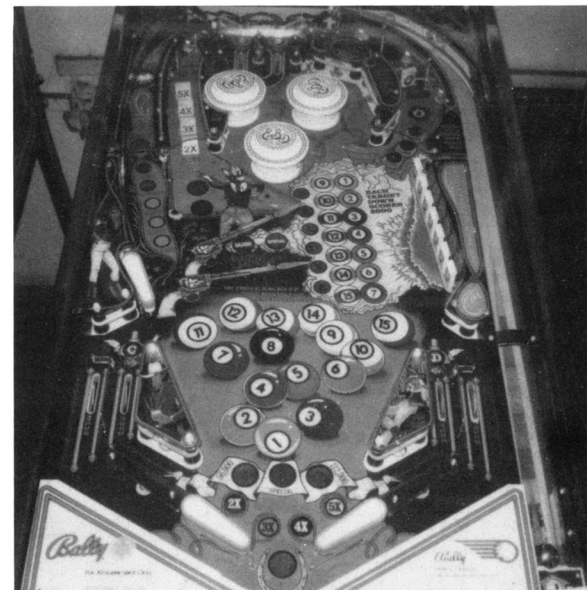
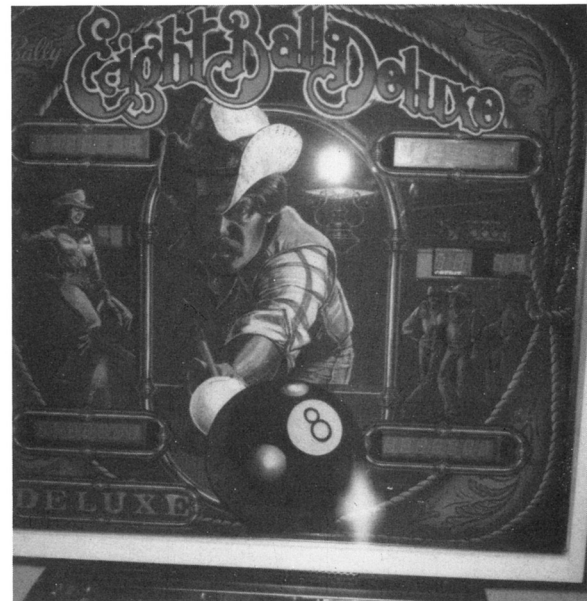
at hand.

Bally's Eight Ball Deluxe

A surprisingly appealing game, one hopes that this follow-up to *Flash Gordon* won't be considered an interim machine that will quickly be forgotten since it does have some nice touches and a theme that has always been successful for pinball. **PLAYFIELD:** The game starts with two lanes at top (A-B) and leads down to a three-thumper-bumper area. Just to the left of this is an in-line target set-up for bonus multiplier and possible special, while the right side has a single standing drop target (8) and a kick-out hole for collecting point values and returning the ball back to the top. Back over on the left is a passage, complete with rollover, for getting back to the top as well as building up points values getting extra ball and even special when lit.

Just below this is a single flipper while on the right side is a seven-drop-target bank that also features targets behind targets. The bottom is a conventional set up of lanes (C-D) leading down to the flippers.

ANALYSIS: On the surface *Eight Ball Deluxe* doesn't look like a remarkable game, nor does it appear to have much of what its notable namesake had, but put a coin in, play a few balls, and the feeling changes dramatically because the game is a good one, although maybe it's just a breath of fresh air from all the other loaded games that haven't managed to combine so much strategy and skill shots. Even the open middle and some of the drains aren't so bad considering the layout of the board and the flow of the game. It's all very simple: just knock down the drop



Bally's EIGHT BALL DELUXE

targets on the right, stripes or solids, depending upon whether you're playing alone or with someone else, or go down the appropriate lanes when lit and then go for the "8" target on the right side to finish off the rack, before trying the stationary targets on the right for filling out D-E-L-U-X-E and leading up to a special. For breathers there's the shot up the left alley which can build to extra ball and even multiplier in-lines. Help also comes from that top left flipper, but all in all the game is very basic pinball without multi-balls and multi-levels and other touches which would probably detract from the appeal of the game. It's a shooter's machine pure and simple with the action primarily being left-to-right and right-to-left, although there are some reverses from the flippers.

The nice thing is the build up of action from the targets which are kept in memory from ball to ball. Finish off a set and there's 56,000 points in the bank, the next time 112,000 points and the next time a special. The A-B-C-D lanes build up the top "corner pocket" kick-out hole values behind that top right target and add to this some of the cosmetics for *Eight Ball Deluxe*

GRAPHICS: Thank God, pinball has finally caught up to the

contemporary scene which happens to be the hottest thing going since space: country and western, although it's not really played up to the hilt here. But the total look is a good break from what has become the norm and makes this game stand out from the crowd. Add this to the rest of the package, which includes speech such as that found on the company's Kiss machine a couple of AMOAs ago, telling you to go for the "seven" or "make the eight ball" as well as some other phrases, and *Eight Ball Deluxe* shows that it has a little bit of everything.

PLAY: Scoring isn't too bad on the game, although everything is really keyed into finishing off the racks for building up point potentials. In fact, depending upon your area and what you've been doing lately, you might even want to go with a five-ball game and higher levels, but for three-ball play on extra ball, you should be right with a 600,000 point start followed by 1,500,000 and 3,000,000 point levels. On free play you might want to increase these by 200,000 to 400,000 point depending upon the caliber of play at your location and your percentaging.

PROS & CONS: *Eight Ball Deluxe* isn't an exceptional game, but for the times it seems to hit a responsive

chord—although I am dismayed by seeing some locations charging 50¢ a play, since the machine can't sustain this kind of pricing. There are some problem drains from that "8" target if the velocity isn't there as well as from the in-lines, but for the most part there is a great deal of play on the board and a fairly simple logic in playing the game and knowing what to do and when for the novice player.

I like the use of speech and think it's effective as well as being understandable even in a noisy location, and the game should be a solid earner since it has that "repeat play" quality with its array of shot to master. In all, it's a comfortable game to play which is counter to many of the other newer games on location which really don't give you time to think through your next shot, let alone a sequence of shots.

RATING: ###³/₄

And that's the word this time around for the corner. *Algar* the new Williams wide-body is out and about on a limited run and might get some space next time, although *Jungle Lord* seems to be the game for this company. And other news as well, as pinball seems to be resurfacing once again for another assault. Until then, as always, be well and prosper.

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Gorfian robots strike

"A major innovation by Midway's creative engineers, *Gorf* is a surefire play action success," says Stan Jarocki, vice president of marketing for Midway Mfg. Co. "It's a new and different kind of 1-or 2-player, full color video game that charts the way to new profit heights for operators and locations."

Gorf is a sight and sound adventure with a voice track feature. The game enlists players into the Interstellar Space Defense Force for five-mission voyage against the evil Gorfian Robot Empire. The player's assignment is to repel Gorfian Robot attacks and launch a counterattack to ultimately destroy the enemy flag ship. Throughout the game the *Gorf* leader speaks to players with taunting phrases like: "Prepare yourself for annihilation," "Survival is impossible," "Some galactic defender you are...ha! ha! ha!" and "My Gorfian robots are unbeatable."

An easy to use, multi-directional, hand-operated flight control maneuvers the player's Space Fighter and contains a trigger to fire laser to destroy the enemy robots.

Gorf features Midway's approach to increase price of play at the player's option," continued Stan. A single coin (quarter) gives a player the standard number of Space Fighters, two coins for 2 players. If additional ships are desired, two coins will give one player twice as many ships, and four coins will give 2 players twice as many ships.

High Scores: There are two sets of high scores that are maintained one for standard complement of ships, the other for extra ships.

Gorf is available in three models: Standard Arcade—height: 73" (183 cm), width: 25" (63 cm), depth: 28" (70 cm). Mini-Myte—Space-saving compact unit with new hooded monitor, walnut finish cabinet, lighted header and attractive graphics: height: 59" (148 cm), width: 20" (50 cm), depth: 24" (60 cm). Cocktail Table—Sit-down style with flip-flop screen; accessory legs are available to raise to height of upright play: height: 29" (73 cm), width: 32" (80 cm), depth: 22" (55 cm).



Starts chalking

Bally has released *8-Ball Deluxe*, a contemporary, new version of Bally's *8-Ball* flipper.

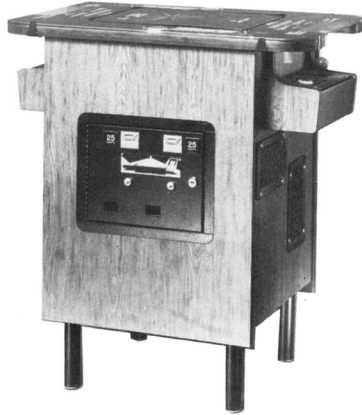
8-Ball Deluxe is loaded with features and skill shots with continuous build-up. Three flippers control the action as players go for the bonus by hitting each of the 1-7 or 9-15 drop targets. When this sequence is completed, the *8-Ball* Target lights, and making all 7 targets and the *8-Ball* target, lights the *Deluxe* lights. Completing *Deluxe* awards points and lights a letter in the popular backbox carryover feature.

The *8-Ball* Target's value advances from 20 to 40 to 60 thousand points and lights the outline specials. It can be collected only by hitting the *8-Ball* Target again. The pool action continues with a Bankshot target, consisting of 4 in-line drop targets and a stationary target that scores points, special and multiplies the bonus from 2 through 5x.

Other shots include an A-B-C-D feature and a left lane to the top of the playfield that scores consecutively higher values up to 70,000 points for each subsequent shot.

8-Ball Deluxe fits many locations with its Great American western theme and the most extensive voice package ever produced, said Bally. It calls each shot, reminds players of stripes or solids and blends with its realistic poolhall background sounds.

New thumper bumper assemblies, wedge base bulbs, and sockets have also been included for longer life and ease of maintenance.



Legs raise cocktail games

A set of durably constructed metal legs have been designed for use with Midway video games in cocktail models. The set of four legs is available as an accessory to raise the "sit-down" version games to a height of 38 inches for upright play.

Midway product information said the legs are easy to install and fit into the threaded holes at the bottom of the unit that are also used for the levelers of these models. The manufacturer said these legs are neater in appearance and have the practical function of enabling simpler cleaning under the table.

The accessory legs are ideal for use in game rooms, but particularly in lounges where operators and location owners encourage play action and deter patrons from using cocktail tables for seating.

Ben Franklin's pingame

Stern Electronics, Inc. announced production of *Lightning* a new solid-state four-player pinball game scheduled for distribution beginning in late April.

Lightning boasts electrifying backglass art and is Stern's first pinball game to award bonus time to players who qualify for the first free game. A digital display on the playfield counts down bonus time and simultaneously displays bonus earned (up to 99,000 points). Additional play/action features—representing the latest innovations in Stern's technology—include:

Bi-level playfield, simulated voice to alert player to action on playfield, multiple ball capability, completion of lighted triple-drop-target-sequence awards player extra ball, double flippers and sling shots, and bonus multiplier up to 5X.



Spectar comes in new size

Exidy, Inc. has unveiled *Spectar* in a cocktail table size. "Exidy realizes the importance of the ever-growing cocktail market," said Mike Wright, Exidy's national sales chief. "*Spectar* will be introduced in a whole new marketplace never realized by the upright or classic models."

The game challenges players of all level with a pattern of pods appearing on the *Spectar* battlefield. Enemy "rammers" emerge from the pods and seek out the player's ships. Two other enemy targets appear to intensify the action: faster and more accurate, they pose a new danger as the game goes on. Another featured *Spectar* objective involves progressing to new and more complex battlegrounds. Each time the rammers are destroyed, a new field appears and bonus points are scored, with the game becoming more difficult at each level.

The player's ship is controlled with Exidy's new durable four-way joystick and a fire button on the control panel. There are optimum coinage and number-of-turns-per-play options for the operator. *Spectar* cocktail table offers a choice of four languages: English, Spanish, French, or German. The legs are telescopic for adjustable height. *Spectar* cocktail measures: height, 22.5" (57.15 cm); width, 23" (58.42 cm); depth, 34" (86.35 cm); and weight, 140 pounds (63.56 kg).

Asteroids In 3-D

Tumbling asteroids, spacecraft shields, and "smart" flying saucers are among the advanced features of *Asteroids Deluxe*, the latest generation of the *Asteroids* coin-op game, introduced March 23 by Atari, Inc.

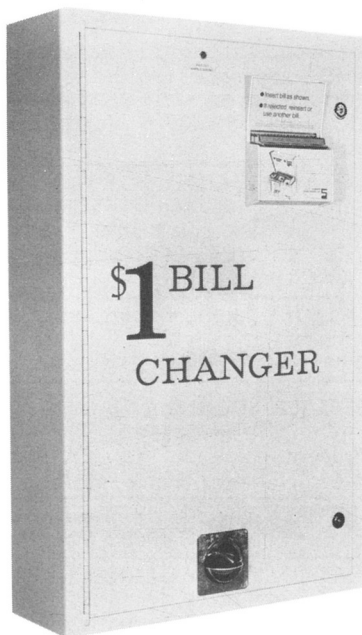
It is a one- or two-player version designed to be challenging to the more skillful video fan while remaining exciting to the novice player, said Atari's announcement.

Asteroids Deluxe uses Atari's QuadraScan to display a video graphics floating above a full-color, "three-dimensional" playfield, a new feature that enhances the illusion of deep space. In the familiar *Asteroids* setting, the game begins with the player's spaceship positioned at center screen. Floating, tumbling asteroids appear slowly—then engulf the ship in a swarm of space rocks. The pilot must maneuver to avoid collisions and position the ship to earn points by destroying saucers and asteroids.

A new "shield" control, found only on *Asteroids Deluxe*, enables a player to protect the ship from collisions or direct hits. The press of a button "shields" the ship temporarily. The shield must be used sparingly, as it fades and eventually disintegrates. Shields are re-energized to full strength for each new spacecraft "life."

During the second wave of asteroids and during each succeeding onslaught, a new "killer satellite veers onto the playfield. A hit on the satellite explodes it into three smaller craft—which, when hit, each split into two even smaller targets. Until all segments are destroyed, each remnant of the satellite also chase the player's ship with a doggedness that increases as the player's score increases.

A new "smart saucer" feature adds to the challenge. Both large and small enemy saucers now shoot at the player's ship, as well as the asteroids. This feature eliminates the possibility of a player lurking behind asteroids to ambush saucers as they appear.



Changes In change maker

Standard Change-Makers, Inc, which recently announced a new line of floor console super-capacity bill changers holding up to 10,000 quarters, has now adapted the same equipment to its 7000 Series wall-mount cabinet.

The new wall-mount Bill Changer, Series 7001, will change up to 2,500 \$1 bills and will be available in two cabinet styles...one with a front-opening, door, that can be mounted to a wall or post, and the other with a rear-opening door that can be built into a wall so it can be filled or serviced out of sight for greater personal safety.

The Series 7001 \$1 Bill Changer will be especially practical for high volume coin-operated laundries or other locations where owners or operators want to reduce filling frequency. While this new changer is normally set-up to vend quarters only, it can also be adapted to vend a like number of tokens of similar size instead.

The Series 7001 features hopper-loading. Coins are poured direct from the bag into one large hopper. The coins are then channeled down through the machine by gentle magnetic vibration. There are no belts or motors to cause jams or breakdowns. Filling is fast and convenient.

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FOR SALE: Electronic boards and video monitor screen for Atari Steeplechase. Best Offer. **MASTER-JOHN VENDING** (715)635-9131.

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WANTED: Bally's Winners Circle Horse Race Machine, Copies of coin machine repair courses, and Bar-Top video card games. **G & G AMUSEMENTS**, 37 Meadow Lane, Clifton, NJ 07012. (201)546-3558.

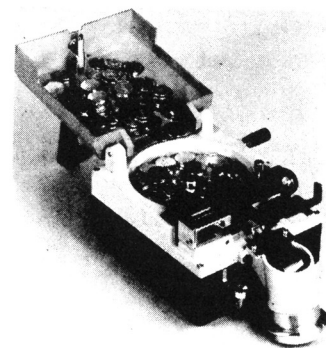
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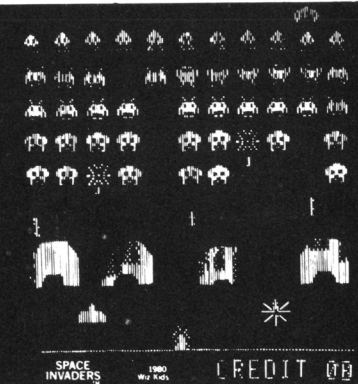
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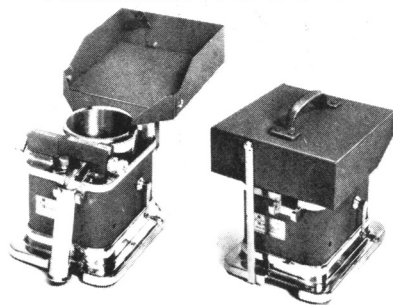
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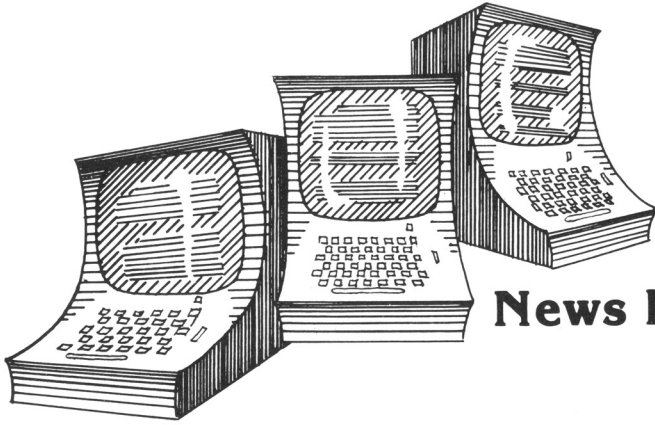
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News briefs....news briefs....news b

..... Coin-op game machines may be introduced in the near future with holography in their programming. Already Atari, Inc. has developed a home video model with holographic features, and that game was featured by Atari at the recent Consumer Electronics Show in Las Vegas. An Atari spokesman responded to the question of an arcade model using the laser optics only by saying that "no model is at this point in production." The technology of holograms for amusement game application has been fined-tuned for some time. For a report, see PLAY METER, December 15, 1980, page 120: "Amazing Optics Will Enhance Coin-Op Games."

.....Minnesota operators were coming to grips with "gray area" gaming equipment in early April. A written opinion was to be forthcoming from the state attorney general's office on the borderline gambling equipment at the request of the Music Operators of Minnesota, a spokesman for MOM said. A report will follow in PLAY METER.

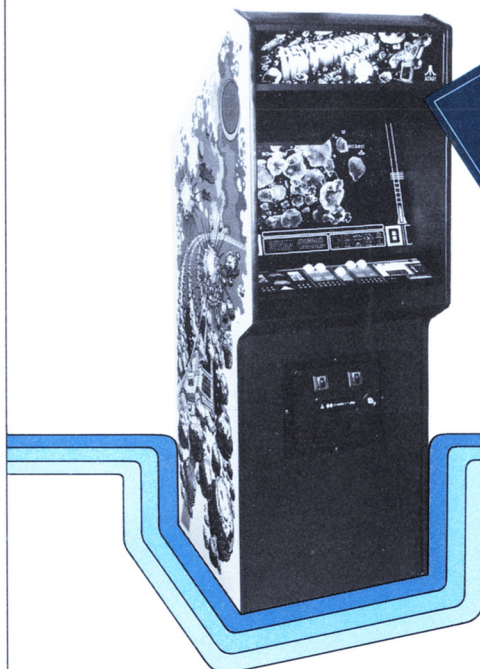
.....Jack LaHart, northern New York State operator for the past 30 years, died suddenly on March 30. He had been an active promoter of coin-op games for a number of years, having launched the Northern New York Eight-Ball Tournament (the most recent outing of which was held April 3-4) five years ago, and being instrumental in providing games for free play by athletes in the 1980 Winter Olympics in Lake Placid, N.Y. That locality is the base of operations of LaHart's Upstate Vending Service. LaHart, 58, was an Army Air Corps veteran of World War II, after which he entered a vending firm in his home area of upstate New York. He and the surviving Mrs. LaHart had three sons and three daughters. Son Bill LaHart will be Upstate Vending's president.....

.....Centuri, Inc. has entered into a licensing agreement with Tehkan International of Japan to manufacture Route 16, a new video driving strategy game. On this game, according to Centuri President Ed Miller, an "elite" version will add to Centuri's product line, which now includes upright and cocktail sizes, as well as its 2001 jukebox. Deliveries of Route 16 in uprights were set to begin in April.....

.....Mrs. Anwar Sadat, wife of the president of Egypt, recently played an American pingame in Chicago. The occasion was her visit to a rehabilitation facility in Chicago for the handicapped. She saw demonstrated the "sip and puff" game adaptation which enables handicapped persons to play the game.....

.....Bally Manufacturing Corp. served as an official sponsor of the 1981 Women's Avon Tennis Tournament held in Chicago January 26-February 1. Bally and Midway games were placed in the tournament competitors' dressing room for their enjoyment. A private tournament was held on the games to demonstrate skills in amusement games as well as tennis....

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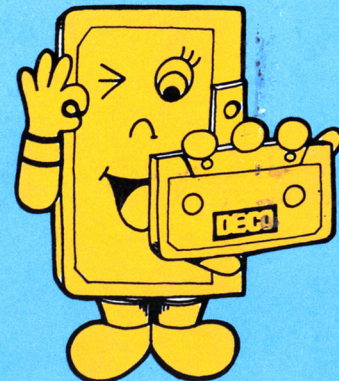
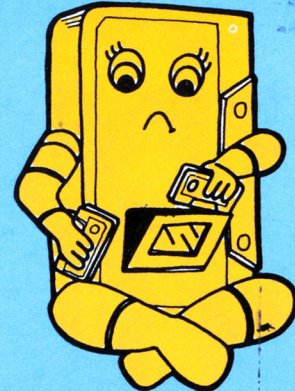
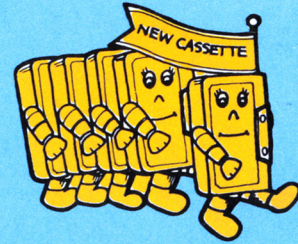
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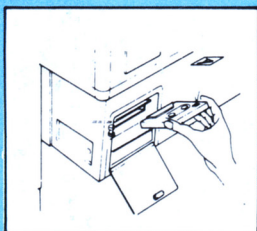
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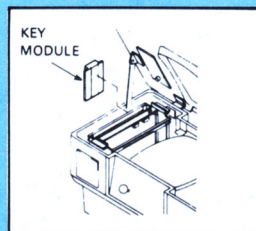
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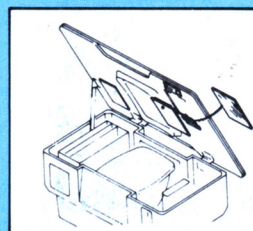
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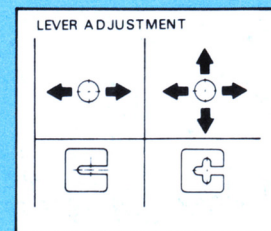
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