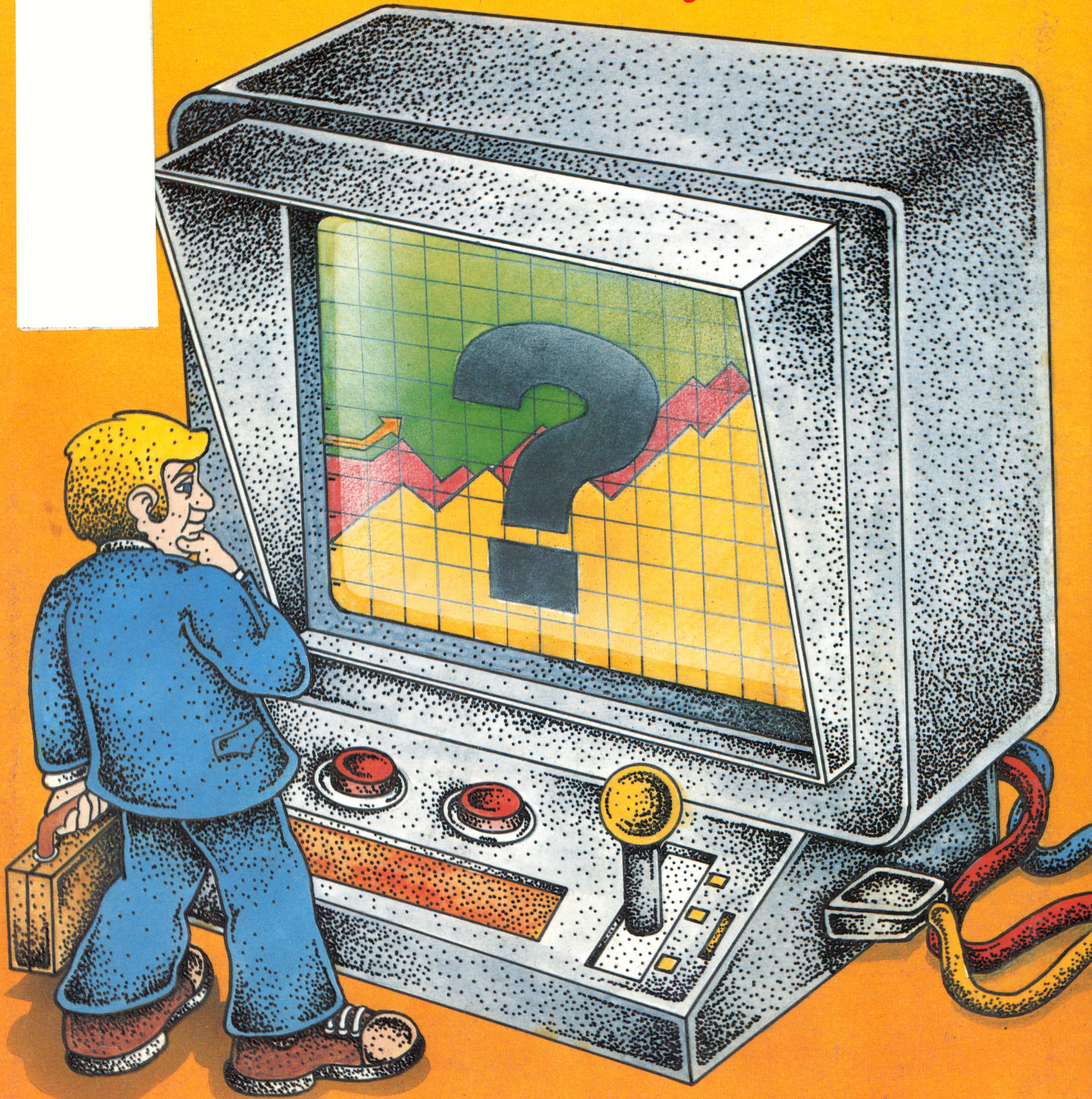


PLAYERS

Volume Number 21

November 15, 1980

State of the Industry Issue



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PLAY METER

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From the Editor

It is report card time for the industry as we present this, our second annual "State of the Industry" Issue. As another coin-op year draws to a close, the industry as a whole should take this time to review its efforts, analyze the results of those efforts, and use those results to plan for the year that lies ahead.

For the very first time, we are incorporating our Annual Operator Survey into this "State of the Industry" Issue. Up until now, this important operator poll had been published in our AMOA Convention Issue. By virtue of the tremendous amount of statistical data generated by the operator poll, it was felt that it would be far more appropriate to publish these results in the "State of the Industry" Issue. We think you'll find these results interesting, as well as encouraging—as far as the health of this industry.

While it is important to keep a close eye on what's happening at the grassroots level of this industry, it's just as important to take a close look at what's going on at the manufacturing level. After all, by their very nature, the manufacturers, to a very large degree, influence the overall success of the industry. They make the games people play and in so doing, hold the future of this industry in their hands. This issue takes a long hard look at the dilemma facing manufacturers today. The problems of complacency, innovation, licensing, and copying are all dealt with first hand.

It can be said that this still blossoming industry is not without its problems. The current economic recession is taking its toll on a great many industries, and this one is no exception. However, while other industries are being hit from both sides of this economic squeeze, the coin-op industry thus far has been hit from only one side. Manufacturers of automobiles and appliances, home builders, and makers of other big ticket items are being hurt by rising costs and decreasing demand. The coin-operated entertainment industry, on the other hand, has only felt the blow of higher costs. Demand for the specialized form of entertainment that this industry provides has shown no signs of decreasing. On the contrary, demand for coin-op entertainment has increased significantly over the

past several years, and there is every indication that this demand will continue to increase in the years to come.

What can we all do to combat the threat of higher costs? How can we insure the continued demand for our services? The answers are not easy to come by. Some possible solutions do seem apparent. Granted, operators can do little with regard to fighting higher costs outside the realm of their own operations. They can, however, be more prudent with their purchasing.

It makes no sense for operators to put all their eggs in one basket. Going all out and investing in only one type of equipment such as videos or pins in many cases results only in a transfer of income. An operator who puts all his money in videos, for example, may find out that additional revenue generated is, for the most part, offset by losses in revenue from his other types of equipment. Operators need to balance their equipment purchases so as to keep this transfer of income at an absolute minimum. To put forth all efforts in promoting one type of equipment while forsaking the other staples of the industry is like taking one step forward and one step backward—you're ending up in the same place you were in before.

Manufacturers can do their part by becoming less complacent and relying heavily upon their own research and development programs. They must resort to bolder design concepts and imaginative ideas in all areas. All too often a manufacturer has been lulled to sleep by the success of one or two games. To continue to thrive, this industry needs a continuous supply of fresh ideas. The days of copycat engineering and re-hashed games must come to an end. Such practices create boredom among the player population and, most of all, tear away the incentive of the all-important few who are the true innovators of this industry.



Ralph C. Lally II
Editor and Publisher

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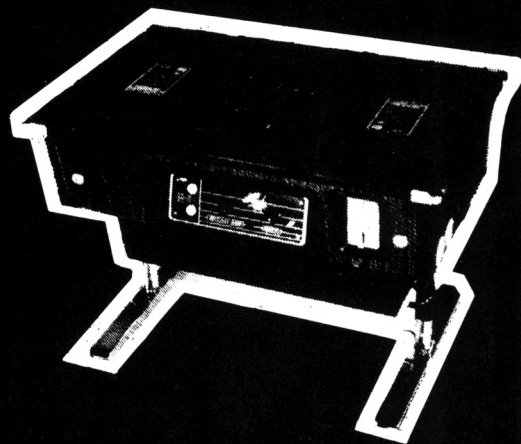


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Gremlin's **MOON CRESTA** Infringement Policy

The **MOON CRESTA** video game in the upright model is manufactured and sold in the United States and Canada exclusively by Gremlin Industries, Inc. The **MOON CRESTA** game is proving to be an extremely popular new game and a fantastic money-earner.

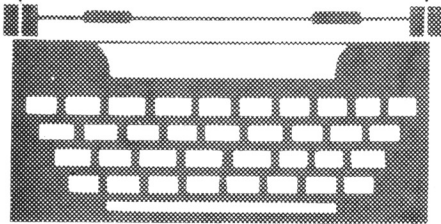
Unfortunately, we at Gremlin have become aware that other parties are attempting to market **MOON CRESTA** games, or games which imitate the **MOON CRESTA** game in the United States. Gremlin believes such games infringe its various exclusive proprietary rights, including trademark and copyrights. Gremlin has acquired its exclusive proprietary rights of the **MOON CRESTA** game for the United States and Canada from Nihon Bussan Co., Ltd.

Gremlin fully intends to take all legal action necessary to protect its proprietary rights against all parties manufacturing or selling upright or table models of the **MOON CRESTA** game which infringe upon Gremlin's proprietary rights.

Gremlin's arrangements with Nihon Bussan Co., Ltd., permit Amstar Electronics Corporation of Phoenix, Arizona to market table models of the **MOON CRESTA** game in the United States.

Gremlin Industries, Inc., 8401 Aero Drive, San Diego, CA 92123 (714) 277-8700

Mailbox



Open letter: 'Thanks'

The National Youth Committee of the American Heart Association would like to publicly recognize and thank Stern Electronics, National Lampoon Magazine, and TRG Communications for their involvement in the Three-Day Campus Fund Raiser [*Ali* pinball promotion].

This was the first event in the 31 year history of the Association that was targeted toward the college market and we feel the expense was an invaluable contribution to our goal of getting today's youth and tomorrow's leaders involved in philanthropy. The structure of the event and the prizes offered were well received and we hope to be able to continue our relationship with these corporate sponsors in future events. Our heart-felt thanks for a job well done.

Phil Philpot, Chairman
AHA National Youth Committee
Dallas, Texas

Worth a look

If we can fit it into our schedule, we will certainly try to make the convention [*Amusement Operators Expo 1981*].

Play Meter magazine is the best thing I've come across. As soon as it arrives, we turn immediately to the new machines run-down and Equipment Poll. If you printed nothing else, it would still

be worth \$25 per year.

James A. Narutowicz, Sr.
F.&M. Enterprises Inc.
Baltimore, Maryland

Computer talk

I think it would be nice if operators could exchange with other operators some of their programs that they use if they are on a computer operation. Most all of the mini-computers use Basic Language, so operators could print out their programs and send them to PLAY METER, and you could list some of the best and most useful.

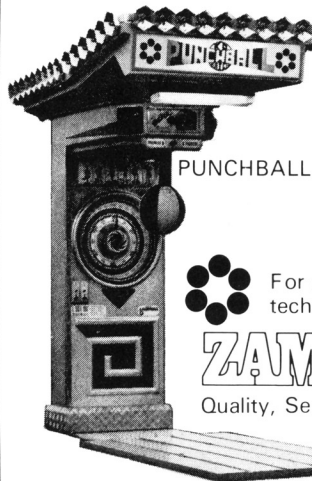
I have been using a computer for a little over a year now. We use it for adding up all income and expenses—which are broken down in different categories so you can see what location made what, and where the money went each month.

Also, I would use it for percentaging games and for printing up paper for tournaments, worksheets for game room attendants, and other uses. I would share some of my programs with others in exchange for new programs.

Daniel Shields
Shields Amusement Co.
Waynesboro, Virginia

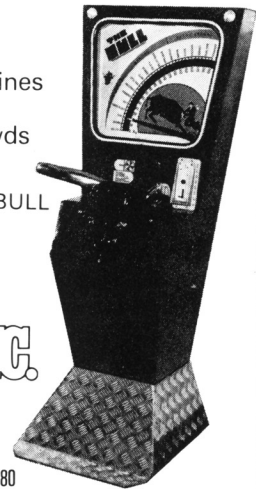
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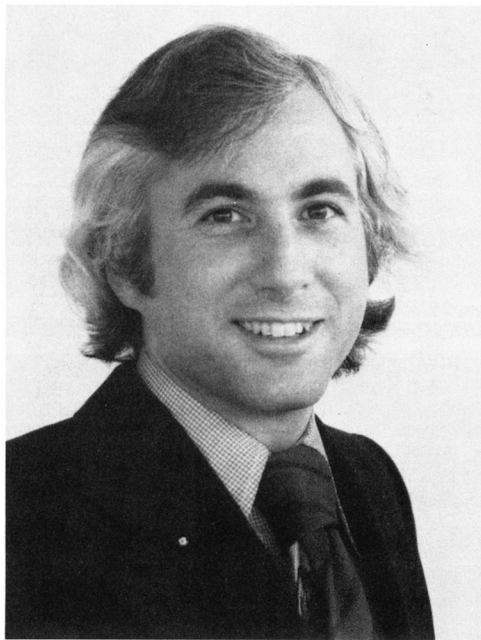


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Coinman of the Month



Gary Stern

Gary Stern is in the very singular position of heading the only U.S. company that manufactures coin-op pinballs, videos, and phonographs [and, for that matter, shuffle alleys, too]. So PLAY METER felt that someone like him, who wears so many different hats, would be able to offer a rather sweeping view of the whole coin-op business in this our "State of the Industry" issue. After all, as a manufacturer, he's looking at the industry from all sides.

And Gary didn't let us down in that regard. His remarks in the following exclusive interview touched on the strengths and weaknesses, the demands and challenges to a manufacturer of each of those various machine types. His thoughts, however, were not restricted to the manufacturing arena. A lawyer by profession, Gary also offered some insight into an area of serious legal consequences to the entire industry. And he is also outspoken as far as the need for operators to increase their pricing structures to keep pace with the higher priced equipment which he, as a manufacturer, can only see going higher and higher.

Certainly his views mark him as a realist, but as his accomplishments attest to, that doesn't seem too confining for him. For instance, the fact that he would start a pinball company in 1976 when the flipper market appeared sewed up by the Big Three—Bally, Gottlieb, and Williams—seems to show he has a special insight into this industry and an ability to recognize what is real and what is myth. When Stern

Electronics burst onto the scene a few years back, there were a great many head-shakers in the industry who didn't think the privately owned company could compete with the Big Three. But, now when anyone in this industry talks about the major pinball companies, Stern Electronics is always included.

Gary was born in 1945 in Philadelphia. His father, Sam Stern [and a Coinman himself just two years ago], was an operator and distributor in the Philadelphia area. The Stern family moved to Chicago where Sam Stern purchased Williams Electronics. Gary grew up in Chicago, then went south to Tulane University in New Orleans for his degree in Business and Accounting. Returning to Chicago, he went to law school and was graduated in 1971. He practiced law for a few years before joining Williams in 1973 to help his father run the company.

They both left Williams in the spring of 1976 and at the very end of that year formed Stern Electronics out of the ashes of Chicago Coin. The company has achieved most of its recent success, of course, on its pinball machines and shuffle alleys and has now added on a video game line. Recently it acquired the Seeburg phonograph line which itself was struggling through a Chapter 11 reorganization.

Gary was married recently, May 10, to Denise Masef, a former TWA airline employee from Birmingham, Alabama. He is on the board of directors of the National Jewish Hospital and National Asthma Center in Denver and is active in several other civic organizations.

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PLAY METER: Since you're in the rather curious position at this time of being the only manufacturer who produces pinballs, video games, and phonographs—we'd like to get your feelings about the state of the industry. How would you assess the health of the industry right now?

STERN: I think the industry is very strong right now. I think those of us who are making pinball machines were worried for awhile about how strong the industry was; but, now that we're also into video games, we can see that the industry is very strong indeed. The distributor is selling a lot of video games, and the operator in most cases is doing very well because of the video machines.

But I must say there will always be a place for pinball machines. We have a pinball machine right now that we are testing, *Flight 2000*, that, from all our tests, shows it earns the kind of money video games bring. The point is the operator needs all types of equipment on his route. He needs the jukeboxes on certain locations. Videos, of course, are very strong. And pinballs are necessary. I think what we'll be seeing now is that a pinball can be made that'll make the kind of money an operator is used to making.

PLAY METER: What special types of problems are you anticipating in the near future?

STERN: Let's start with pinball machines. The challenges are to make a pinball machine that will take advantage of the new technology and earn substantially better, like the video games. With the use of the microprocessor there are a lot of things that can and will be done in the future to make those games more interesting. So we'll have to be able to think of these things in a new way, as to what'll keep the players' interest.

The other problem with pinball is a marketing problem. The operator has become, and rightfully so, more inclined to buy video than pinball. And he has hurt himself, especially with the kind of pinball we're beginning to see. We have to see the operator re-educate himself into buying pinball machines. When one person sees the next person isn't buying pinball, he thinks maybe he shouldn't buy pinball either. So I think the pinball market is over-depressed, but we'll see it coming back soon.

The video game, of course, is another area we're working hard on. We have our own ideas, and we also have some concepts which we buy from Japan. The challenge here will be to get the best concepts, whether they be our own or are licensed from other manufacturers. We're not going to be limited to the "invented here only" philosophy. There are going to be more video game manufacturers. People who haven't been in that field are going to try to get into that field. So it's going to be very competitive. Only the best games will sell. The days of selling a fair game ended a long time ago. I think instead of seeing banks of filler games in the arcade, we're going to see banks of the same game all next to each other in the arcade.

In music, certainly the challenge is great. We have a completely new production facility to get started. We have what we are convinced is the "Cadillac" of the jukeboxes. We will be producing it shortly. And we have some ideas as far as changing that product. Actually the jukebox hasn't changed since stereo was

added in 1962-1963. So there are a lot of things that can be done. The microprocessor offers a lot that can be added to the phonograph that hasn't been done yet.

PLAY METER: Okay, now focusing on the first of these three general topics, would you say that the soft pinball market was created by video games?

STERN: I wouldn't say it's just because of video games. Certainly video games are strong, and that has hurt the use of pinball machines. All operators are aware of this, and many operators have changed the percentage of pinballs and videos on their routes, thus increasing their percentage of videos. But part of the problem is that the pinball manufacturers have not come up with enough new ideas. A pinball machine can be made which will earn as well as a video game, I believe that. The pinball manufacturers are going to work very hard in order to come up with these new ideas. It's probably a little more difficult to come up with these ideas now, but it can be done.

I also think the panic non-buying of pinball machines has been somewhat overdone, to the point that operators and distributors have been almost afraid of buying pinball machines because they're buying so many video machines. So things have gotten somewhat out of proportion, and I hope this doesn't hurt the operators when they find out they have too many videos and not enough pinballs on their routes. Certainly he's going to need the pins in there.

PLAY METER: You mentioned a little while ago that operators need a re-education as far as pinball machines. What exactly are you talking about here?

STERN: I think the only way, as a manufacturer, that we can attack that problem is by building great games. I think we're doing that right now. As operators will see, pins will earn the kind of money he is used to making now. That will be the re-education. I don't know if there is any campaign that can or should be done by the factories to re-educate people to buy pinballs. I think perhaps the way we should speak to the operators is in the cashboxes of our games.

PLAY METER: Would you say this turn-around from pinballs to video was a sudden thing, or did you see indicators of this turn-around?

STERN: I'd say it was very fast. Maybe as we look back, we should have seen it happening a little more quickly. But I think it was very fast.

PLAY METER: What indicators, would you say, would have shown pinball was headed for a downturn?

STERN: I think there was over-production and discounting, and a general reduction in demand. But you've got to remember this is a business of peaks and valleys. We're in a style business; so it's not unusual for one item to become more popular than another. We've seen video games become very popular before, when they first came out. But there is only so much money to be spent on games, and only so many spots on a route to fill.

When videos were strong before, we saw pinballs suffer. This is a style business, and so by its nature, it's going to have those peaks and valleys.

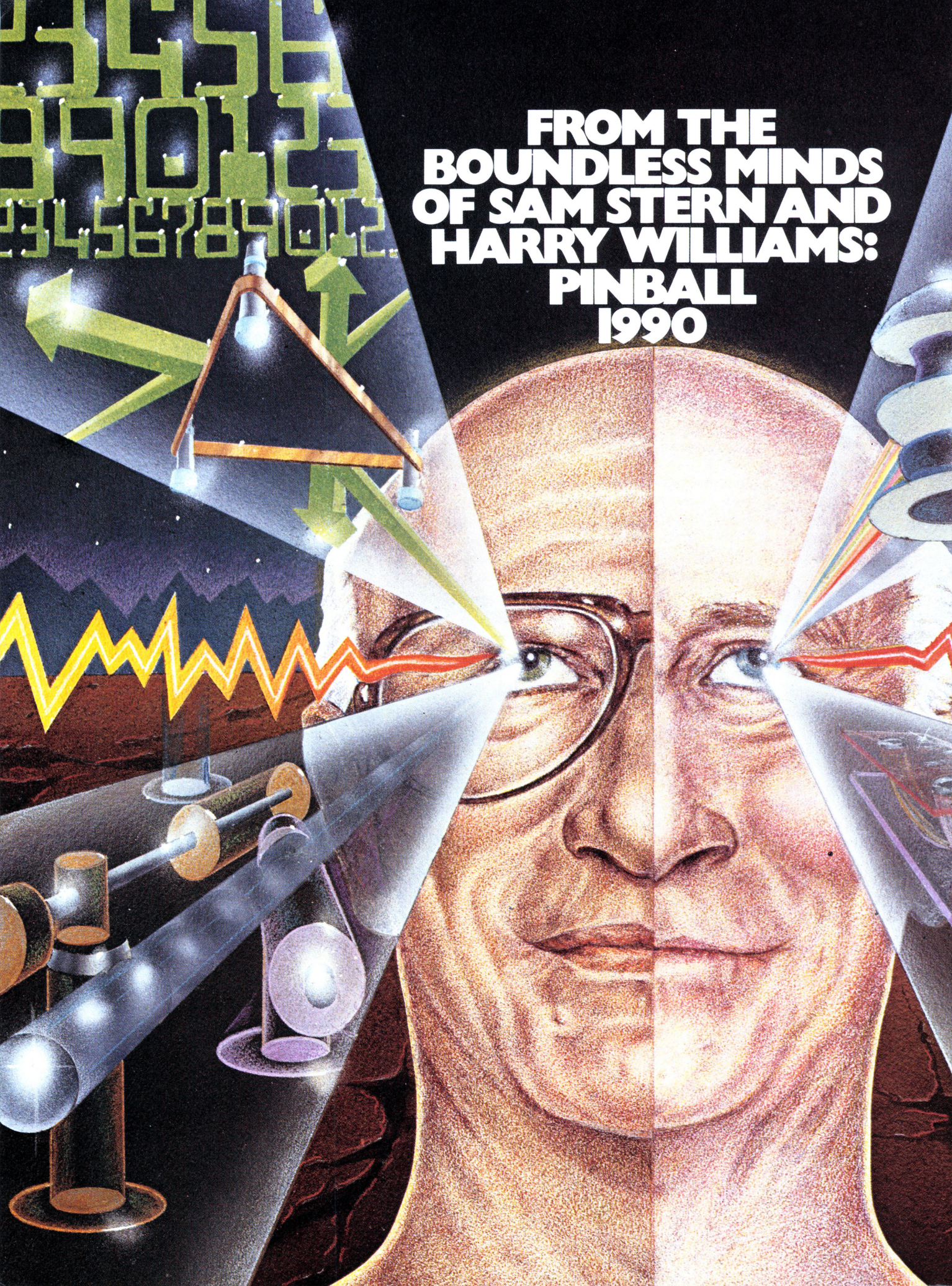
PLAY METER: Is this why you got into video game

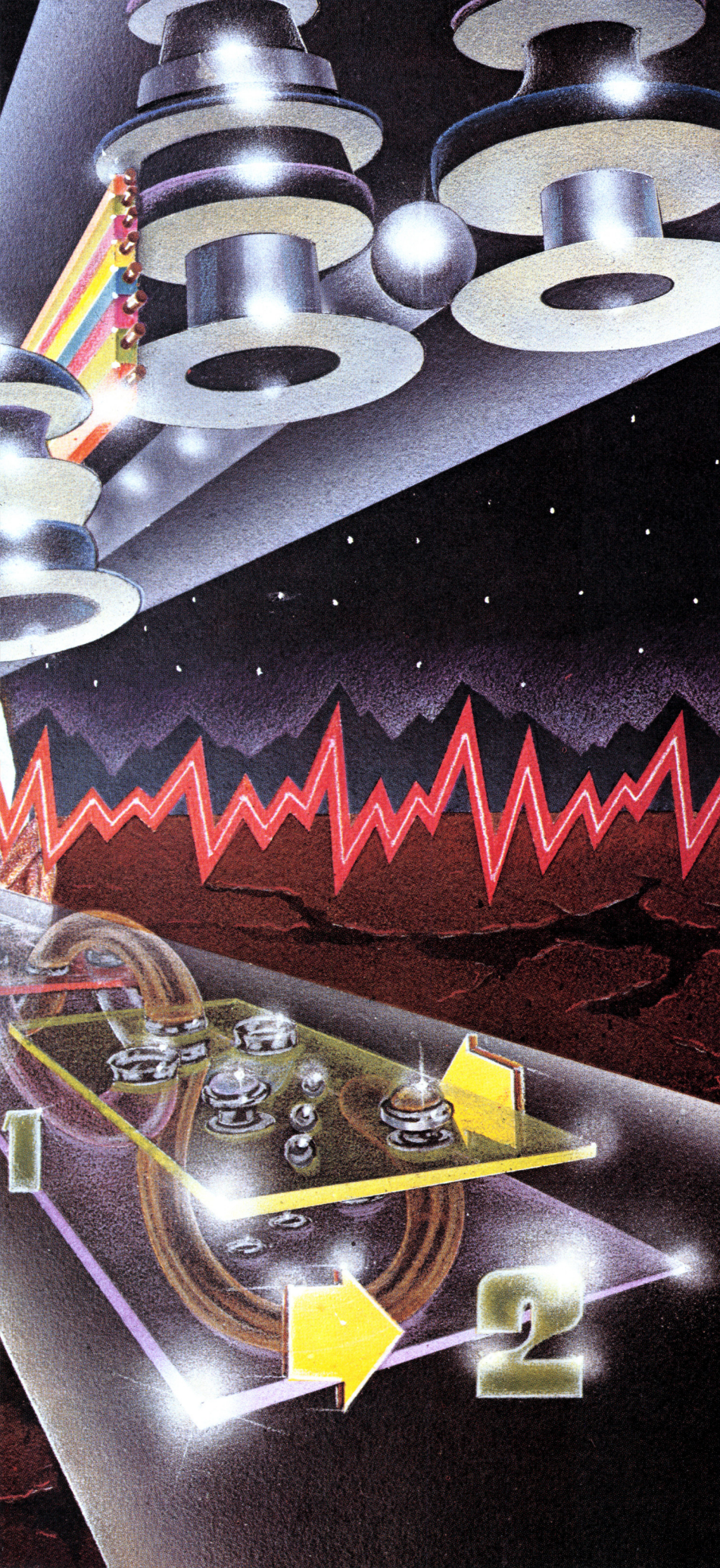
THE PINBALL PROPHEETS

Pinball Forecast Recovered From Past

(See inside)

**FROM THE
BOUNDLESS MINDS
OF SAM STERN AND
HARRY WILLIAMS:
PINBALL
1990**





A CONFERENCE REPORT

DATE: May 15, 2357

TO: All Stern Uni-Wide Lastronics
Board of Directors

FROM: XR Kon Jobby II,
VP Product Development

RE: The Predictions of Two
20th Century Pinball Pioneers

Recently, I uncovered some startling information. It seems two of our company's early predecessors made predictions about the future of pinball back in 1980.

Gentlemen, if not for Sam Stern and Harry Williams, it appears pinball would not be the game it is today. Evidently, they led us to where we are.

With uncanny accuracy, they forecast the evolution of pinball. How, I ask myself, was it possible? How could Harry Williams possibly have known that Neutroactive Pneumatics would one day revolutionize the industry? Was it just a good guess? Or truly a vision!

Our recent AtoMagno flipper innovation is another case in point. Sam Stern saw it coming almost 350 years ago—long before the discovery of Luranium. Was he genius? Or prophet? One may be led to think both!

I also would like to add that many of their prophecies went beyond pinball and into the socio-eco-political order. No area was left untouched.

Together, they envisioned the formation of the New, New, New, New Chrysler Corporation.

They forewarned us that yogurt would one day be judged a health hazard.

They predicted that beer would eventually fuel our automocruisers. (However, they never foresaw the present shortage of imported brews.)

In closing, let it be known that one of their predictions has yet to come to pass. The creation of Scannerball.

Gentlemen, I have their designs! We shall begin work first thing in the morning.

STERN

“You ain’t seen nothing yet!”

STERN

production?

STERN: We have always been planning to get into video games, not just as a sideline, but as a major product line for us. We have always wanted to be a full-line supplier for our operator customers. In addition, we recognized that there will be times when one form of product is stronger than another in the marketplace. We all have seen it before, when the first paddle games came out. Certainly they took some places away from pinball machines. Later we saw those taper down, and pinball become stronger again. Then we had the driving-type video games which were more arcade-oriented, and those tapered down. And now we have a more sophisticated video game that is suitable for both arcade and street locations. So I think it's obvious there will be times when video will be stronger and times when pinball will be stronger. But I think both products will always be needed.

One of the advantages we have is that we're a private company and don't have to produce games that aren't wanted in the marketplace. We don't have to increase our business for our public shareholders. This diversification was our original concept all along. It just so happened we started our diversification at a critical time. We would have been starting about this time in any event. But we have always intended to diversify into the various coin machine lines. As our needs arise, though, we can increase or reduce our production levels to be more responsive to what is needed in the field.

PLAY METER: Do you feel pinball is progressing as rapidly as video games?

STERN: I think from what we'll be seeing in the near future, you could say that they're progressing more rapidly than video games. Video games have progressed very rapidly, but I think a lot of things with pinball are happening right now that will be wonderful for the marketplace.


PLAY METER: Turning again to the video games, would you say that market is saturated right now?

STERN: I don't think it's saturated right now. But I do think only the very good video game will sell. It's no longer a marketplace where you can make simply a good game, but not a great game, and sell it. The operators are very choosy, and rightfully so. But, to answer your question, with the number of manufacturers who are getting into the field, the video game market is becoming very competitive. It is a very dangerous place for a manufacturer to be in. However, we think we have some great video games. Certainly *Astro Invaders* is doing very well for us, and apparently for the operators, too.

PLAY METER: What are your ideas as far as what makes for a good video game?

STERN: It has to appeal to the average player and to the above-average player. What we have seen as far as the great games that have certain levels where the game becomes more exciting, more difficult, and quicker. And, again, the game must have lots of action.

PLAY METER: Where are the games headed right



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now?

STERN: The games are becoming more sophisticated, and there are several reasons for that—one of which is that the players are becoming more sophisticated. You see games with various skill levels in them, and I think one thing to note are the various types of monitors that are available right now. I think that one or two years from now there will be even more sophisticated monitors which will allow us to do even more in the games.

PLAY METER: Moving on to the matter of the phonograph market, what were your reasons for getting into that business? Isn't that pretty much a replacement market?

STERN: To date it has been a replacement market. However, there are many operators who would have been done a great disservice if the Seeburg phonograph were to disappear, because many operators still have many Seeburg jukeboxes out there and they need replacement parts. And they need new phonographs which will match their older installations. We do not see a growth market in the phonograph market; but, all the same, we do see a very good business there.

Most important to us, however, is that the Seeburg project will not be a success for us if we continue to make the type of jukebox that is being made today by all the manufacturers. We have some ideas for the future which we think will revolutionize the jukebox. I'm sure the other manufacturers have their ideas, too; but something must be done to revolutionize the jukebox business, to create a demand for the phonograph and make it a great earner again.

One thing, if you look at all the current jukeboxes is that they are all microprocessor-based; however, they don't really do anything different from what the non-microprocessor-based jukeboxes did. We have some ideas for using the microprocessor which will make the phonograph earn more money.

We have more experience with the microprocessor than any of the other jukebox manufacturers since we've been working with it for a number of years with pinball machines. I like to make the comparison with the early solid state pinball machines. They really did the same thing the electro-mechanical pinballs did. They didn't even have the memory features yet. As the manufacturers learned more about the microprocessor, they were able to make more and more interesting pinball machines. The same thing applies to phonographs. The current microprocessor jukebox does what its predecessor did. But we have more knowledge of how to use the microprocessor, and hope in the near future to take fuller advantage of that microprocessor and make the phonograph a solid earning piece again.

Take our newest pinball, *Flight 2000*, for instance, and put it next to a three-year-old Stern game called *Pinball*, and you'll see the evolution. We plan to short-circuit that evolution, and do the same thing with the jukebox within a year or so.

PLAY METER: How is the Seeburg acquisition going to affect your distributor network?

STERN: We have now formed two divisions at Stern Electronics. We have a music division, over which

Larry Siegel is president; and we have a games division, over which Steve Kaufman is president. And we also have a subsidiary, Universal Research Laboratories, which does our solid state engineering and board stuffing. It gives us better control over our boards.

So, to answer your question on how the Seeburg acquisition will affect our distributor network, to a large extent, the Stern game distributors will remain Stern game distributors, and the Seeburg distributors which we will appoint—and which, in most cases, will be the former Seeburg distributors—will be Seeburg distributors. Where they overlapped previously, they will continue to overlap. And where they did not overlap previously, they will not overlap now.

I should point out that although we have two divisions, we will not be so structured that everybody will not know what is going on in the various divisions. Our people will be able to help and participate in the various divisions.

PLAY METER: This past year you wrote an open letter to the industry wherein you explained that, regrettably, the price of equipment would continue to go up because of cost factors that were outside the control of the manufacturers. What are your feelings on this subject today?

STERN: This is still an inflationary economy, and it will remain an inflationary economy. It's not something that can be turned around overnight. It's something that we don't have full control over either because it comes from outside. We have seen what the cost of fuel has done to our economy. All these games contain petro-chemical products. And our suppliers' costs are continuing to go up; so our costs are going up too. And, because of this economy, the operator who has to pay a higher price for the games is going to have to make sure he's getting enough per play or a good enough split on his equipment to warrant the investment.

PLAY METER: Then what are your feelings about fifty-cent play for pinball?

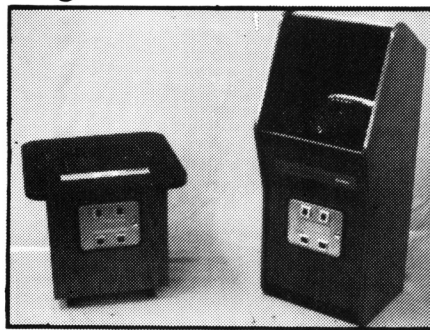
STERN: I think it's something that's already warranted in many locations. The games are going to become more expensive. So, to have an adequate return, the operators will need fifty-cent play. It's appropriate in many locations already.

You have to remember that inflation is here, that the player will be able to afford it, even though he may complain at first. We are not like a grocery store which can increase the price of its bread a penny a week. We have to do it in jumps. So I think it's very important where the games are on three-ball play at 25 cents that they are not adjusted merely to five-ball play at 50 cents. That's not going forward in my opinion because all you're really getting is one less ball for the 50 cents. And once people get used to five-ball, it's going to be very difficult to get them to three-ball again. So what we really need is three-ball, fifty-cent play.

PLAY METER: Moving on to another subject, what can be done as far as quality control at the manufacturer level?

STERN: This is certainly a constant battle for any

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“I have nothing against pure gambling, but it is the gray area equipment which can cause problems for this industry”

manufacturer—to have good quality. It's something we are working on very strongly. In fact, we have instituted a new quality control program here, and have greatly increased our inspection and auditing.

We are extremely concerned about this, especially as the games become more complicated. We think we're doing some things on our future games which will be of far greater quality. But I also think there are some engineering changes that can be done to make the games a little easier to build and easier to service.

There is a lot of talk about the quality of the American worker, and I certainly believe we need to have a good quality worker. But I think the worker today is an even better worker than in the past because of the state of the economy.

PLAY METER: As a speaker in New Orleans at the Amusement Operators Expo, you sounded a note of caution about the removal of the IRS stamp. You said that the removal would present more of a problem to operators than what the industry was seeing at the time. Can you explain yourself on that point?

STERN: I was referring to the removal of the \$250 IRS tax on gaming equipment. This pertained not only to pure amusement games but also to games that are in the “gray” area. The problem we face, as I see it, is with these gray-area games. They may be pinball-type games or video games. Today, though, I think we're seeing more gray area games in the video area, games which appear to be amusement games but which are really made for gambling. They'll include up to 999 free plays and often have a knockoff button. The problem which we face is that without the IRS's enforcing a tax stamp to put on such gambling machines, it is difficult for local authorities to tell which are the gambling machines. With the tax stamp, local authorities could tell if the game was a gambling device. Without it, the local authorities have to watch the game, play the game—and the local authorities are not educated about games. When too many of these games appear, the local authorities may decide that the easiest way to prohibit such gambling machines is to prohibit all amusement machines. This is basically what happened in the '40s with pinball machines when many one-ball or in-line games were operated; all pinball machines were outlawed.

The same thing could happen again today. Some of the great legal arguments which were made on behalf of the flipper games were based on the pure amusement value of the games and the deprivation of due process and equal protection under the law, as

provided for in the Bill of Rights. The argument was made in California, for example, that it was unfair to prohibit a pure amusement machine when pure amusements such as movies were not being prohibited. If there is no easy distinction between pure amusement and these gray area machines, we lose that argument. Authorities will, in many cases, take the easy way out, and that is to outlaw everything.

Without any federal law protection, everything goes to the various state and local authorities, and I see a disaster in many of these areas. I have nothing against pure gambling, but it is the gray area equipment which can cause problems for this industry.

PLAY METER: What can and should be done to combat this problem?

STERN: I think lobbying at both the local and national level is appropriate. I think operator organizations could be most effective because they represent the most people. I think self-policing is the best answer. Operators and distributors cannot bury their heads in the sand here. They must become aware of the dangers with these gray area games.

PLAY METER: How as a small pinball manufacturer did Stern Electronics survive in this business? When Stern entered the market a few years back, there were three major pinball manufacturers, and it was largely considered there was only room for three majors.

STERN: That's a good question. I think the answer is that we were able to adapt very quickly where we had to adapt. We are not a public company. We do not have to worry about many shareholders since we are a private company. And we are an informal company, just as I indicated before with our Seeburg and games divisions. We are not completely structured; so we are able to move quickly and adapt.

The only problem one has in this kind of situation is money! We've had to do some pretty fancy financing because we're not a public company and don't have a parent, like a large movie company, to finance us. We have to do it all ourselves. So that's the most difficult part.

PLAY METER: Now that there are four major pinball manufacturers—

STERN [interrupting]: Thank you.

PLAY METER: —is there a possibility for a fifth?

STERN: Anything is possible. We welcome strong competition. It makes us make better games. •



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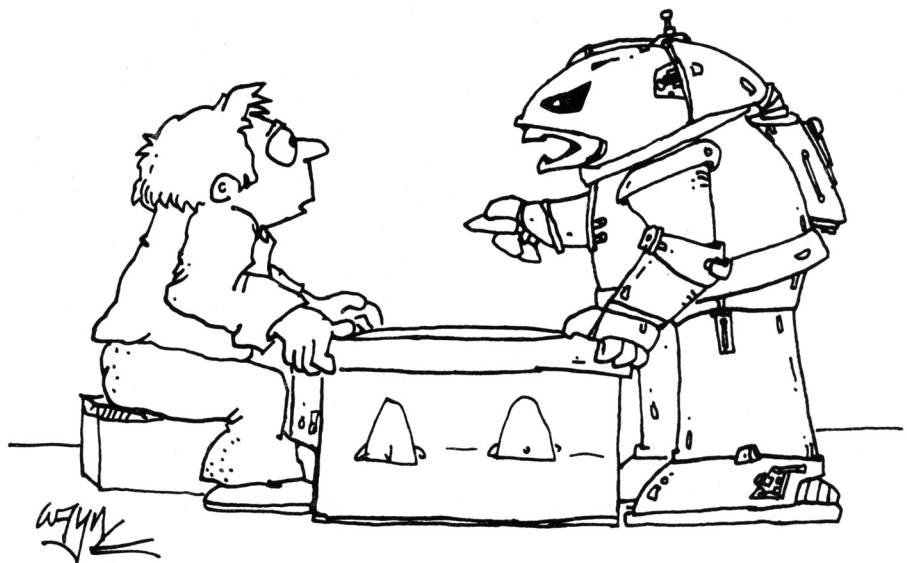
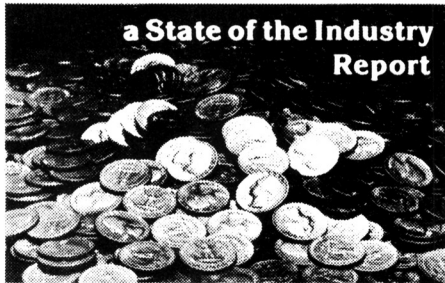
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'The Xerox Effect'

'Illegally borrowed' games face reprisals in courts, hard-shielded designs —and the marketplace

The epigram of American inventiveness has been, "Build a better mousetrap and the world will beat a path to your door!" The recent experience of coin-operated games manufacturers in the western world, however, is that when they have a "better mousetrap," particularly in a video game, the path is beaten by modern pirates who wish to duplicate the electronic coin-op mousetrap for their own gain, at no royalties to the originating producer.

This comes at a time when the industry is shaking every creative source for mega-dollar producing ideas in coin "traps." The producers are in a pattern of "filling a pipeline" with new equipment for a public growing jaded with each item at a fast pace. (See separate article, "The Hit Syndrome.")

The oil of that particular pipeline can be said to be the stuff of *ideas*: intangible things, but the essence of a complex machine such as an electronic video game. The problem is where will ideas come from. Ideas are not cheaply bought things. Nor are they sacred, inviolable; that is our main problem, and the burden on the games manufacturers—more on

the relative vulnerability of ideas later on. First the question of money to produce ideas.

Research and development, another name for the distillery of ideas, is expensive. While not offering a figure for R&D costs, Stern Electronics' president Stephen Kaufman, amusement games division, said the expense of time and money was high for Stern's first video game, *Astro Invader*. The reason was that both a game concept and a system into which to incorporate the concept had to be developed. With its second effort, the *Berserk* video, Stern will have the patented electronic system, and only the cost of creation of the original concept will appear on the corporate ledger, he explained.

Once a producer has taken some six months' time to develop its original product, it naturally defends its product from theft. In the U.S. Constitution and on the federal law books is the principle of copyright. The protection of an original creation is absolute. Right?

Not necessarily.

"No manufacturer has entirely tested what copyright fully stands

By Ray E. Tilley

for," said a marketing executive. "It will take a court test, and we'll find out how strong it is," he maintained.

Clones

Unlike the world of ideas in books, the rapidly advancing electronic games field has not had its court precedents to ward off those who would duplicate game ideas as quickly as a plagiarist would duplicate a book by using a Xerox machine. The day in court is bound to come, however.

An attorney for a West Coast manufacturer puts it: "It's possible to clone out a bunch of chips—the game has in it a number of Read-Only Memory chips, and contained in them is the software that is the basis of the game."

The protective tactic taken by at least two American manufacturers is this: A video game is played for a length of time with a videotape being made of its play screen. Then the videotape is copyrighted. If machines come up that look like copies, the manufacturer's lawyers will take the videotape of the original game and a videotape of the copy to a judge to cite copyright infringement.

One attorney involved said, how-

ever, "I don't know what protection this will give." With others in the legal arena, he agreed that video copyright infringement is "a very new area of law."

[At Gremlin Industries, as PLAY METER was canvassing producers in connection with "The Xerox Effect," company officials in mid-September had only begun to study an apparent "copy" of *Moon Cresta*. The game had been licensed to Gremlin by Nihon Bussah. The doppelganger was first noticed in an advertisement, and a piece was found in the United States with "the same play and characters," said a Gremlin official.]

Manufacturers continue to take all legal measures at their command to protect games which, as yet, have no "clones."

Williams Electronics registers its pinball games country by country, or by block as in the Common Market countries, said its Marketing Director Ron Crouse. "Copying is a significant enough problem to protect yourself whatever way you can, and we will take a very tough approach," Crouse told PLAY METER.

A situation arose one year ago in France, he said, when Williams president Michael Stroll spotted a

pingame "identical to *Flash*—the same artwork, playfield, even down to the Williams copyright on it—made in Italy." The pressure exerted by Williams in that case through European and American courts soon put the copier out of business.

That may be a solitary case, however, not enough to give manufacturers the feeling of security that the copyright mark or patent number might give rise to.

A suggestion made to PLAY METER was that a copier who has studied the law of a certain country may set up his "Xerox machine" in that nation which does not respect U.S., British, or European copyright law. Like the "outlaw" broadcasting stations off the coast of Britain in the North Sea, where the kingdom's broadcast law does not have regulating effect, a pirate games maker may be able to successfully copy by operating in some remote (but electrified) island location.

The copiers' 'take'

Recently, Atari, Inc. found a clear-cut copy of its *Asteroids* video being marketed in the United States. According to Marketing Director Frank Ballouz, letters from Atari

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Unfortunately, we at Gremlin have become aware that other parties are attempting to market MOON CRESTA games, or games which imitate the MOON CRESTA game in the United States. Gremlin believes such games infringe its various exclusive proprietary rights, including trademark and copyrights. Gremlin has acquired its exclusive proprietary rights of the MOON CRESTA game for the United States and Canada from Nihon Bussan Co., Ltd.

Gremlin fully intends to take all legal action necessary to protect its proprietary rights against all parties manufacturing or selling upright or table models of the MOON CRESTA game which infringe upon Gremlin's proprietary rights.

Gremlin's arrangements with Nihon Bussan Co., Ltd., permit Amstar Electronics Corporation of Phoenix, Arizona to market table models of the MOON CRESTA game in the United States.

Gremlin Industries, Inc., 8401 Aero Drive, San Diego, CA 92123 (714) 277-8700

With this advertisement, Midway Manufacturing served notice that it would take action against 'copiers'.

Gremlin spokesmen said their ad notice 'speaks for itself.'

attorneys are usually sufficient to ward off such demons. Otherwise, "we're trademarking and registering our games in as many countries as applicable," he stressed.

In Ballouz's assessment, copiers have no costs in R&D; they only have the pure costs of manufacturing their copies. The originators, such as Atari and the other major manufacturers return a portion of their profits into the coin-operated industry through their continued R&D engineering. So, while the "real thing" costs more to the buyer than the "Xerox copy," the copy represents money flow out of the industry and, often, out of the country.

Another option to the manufacturer is to license a game concept from its manufacturer, usually abroad and most often in Japan. American games makers' representatives told PLAY METER the cost of licensing approximately balances the cost of R&D in this country. Part of the price of licensing goes to pay for the originator's R&D.

This legitimate business practice is another aspect of what may be called the "Xerox effect." Distinct from pirating a product idea, a "kit" is paid for, the game design is produced at the licensee's facilities. While obviously not proliferating the number of game ideas offered to the coin-holding public, licensing is not without its boomerang to fly suddenly back into the licensee's face.

A London trade paper observed recently in a front-page editorial: "We have had many instances where we have reported quite faithfully that one British company or another has been licensed to build a Japanese game in the U.K. The telephone is immediately hot with calls from other people in this country who are supposed to have exclusive licenses from the same company to produce the games.

"In most instances both British companies do indeed hold license to manufacture. Clearly, the blame for creating this situation rests firmly in Japan, where the industry seems determined only to gain the maximum benefit from each game as quickly as possible with scant regard for the problems they create with other countries," said the trade publication's editorial.

The British trade publication concludes: "Granting licenses is one thing. To then ship boards in via the back door to someone else can lead to only one result—a loss of credibility for the Japanese trade generally, and a build-up of so much discontent in

other countries that they are forced to develop their own games. And where will the Japanese industry be then?"

Kaufman of Stern, which licensed a kit for its first game, laid down a rule of thumb for licensing: "First, you look at the reputation of people you're entering into agreement with." Stern was confident its licensor for its *Astro Invader* will not enter that game in other markets, he said.

At Williams, Crouse said the company, which is developing a "home grown" product for its first video, has looked at licensing games from abroad "primarily because we're new in the business. We would rather do our own design in-house." Eventually, the Williams product itself may be "cross-licensed" to foreign distributors.

Atari, while entirely producing in the United States "is not against licensing," said Ballouz. "But we feel that with our engineering people, we have been producing games that are keeping our facilities very busy." If the right licensor offered a game that seemed profitable to fit into the Atari production capabilities at Sunnyvale, "we would definitely license it."

Ballouz noted that a joint venture was entered between Atari and Namco in 1976 with Atari purchasing kits for the production of its *F-1* game.

The picture painted by the producers' various spokesmen was that no greater cost to the buyer arises from American licensing of foreign games.

Other measures

As another writer has observed, the "Xerox copies" seem to keep coming down the pipeline as the rows of aliens do in the video *Space Invaders*. One set of ammunition, the legal guns or the legitimate license, may not be adequate.

Protection of the fruits of creativity includes the means of the high technology which produced the subject games to begin with. One technique toyed with by an American licensee of Japanese games is to build in a "self-destruct" mechanism which would erase the component chips if an attempt were made to duplicate their program.

Another producer, however, termed the destruct feature unrealistically expensive to build in.

Spokesmen for two of the newer entrants in the video derby, Williams and Stern, said their games systems themselves would defy copying be-

cause of their complexity. If the concept software were copied without the game hardware, the result would not have effects as satisfactory as the original, they stated.

Marketing methods themselves are arenas for attack on the "Xerox effect." The copiers making direct sales to operators have not been legally pursued in the past, due to the small percentage they command in sales, compared to the giant video makers' share. But this laissez-faire attitude may change.

A major manufacturer's executive said that, "whether one or 1,000" copy types are sold, a legal challenge is worth the fight. "At some point in time, action will have to be taken," he said.

When that arena is entered, distributors and operators themselves should beware of action being taken against them for handling the infringing machine, sources noted. Legal action was brought against a West Coast operator on such grounds earlier this year.

In the case of producers with their own arcade operation network, additional clout against copier firms has been suggested. Either by threat or actual boycott, such snubbery should have measurable effect.

To add to the weight of legal measures, too, would be cooperative legal action by the legitimate manufacturers. Joint action in the past has failed to come about, one executive noted, but with the large scale of the cloning problem today, an industry association to attack the copiers may be expected to be formed soon, said another.

Continuing battle

With the unsettled areas of law and untested strengths of various approaches to the game copying effect, the battle between game originators and their copiers is certain to proceed.

The effect puts the manufacturers in a wrap of secrecy rivaling Detroit's, when new game models are produced and market-tested.

Before a game is mass-produced, little is divulged about it, in order to forestall the cloning which producers assume to be inevitable.

At the point of a prototype's being location tested, as a manufacturing executive put it, the reigning state of mind is one of "paranoia." For this condition, there is no shrink, no pill for this industry. The solution more likely lies in buyers' showing willingness to support originality—and not an imitation. •

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Play Meter Survey Results

Videos sweep to big gains in 1980

Two out of every three operators in the United States experienced an increase in profits during 1980, an increase almost entirely attributable to the phenomenal earning ability of recent video games. And operators, reacting to this sudden change in the market, diverted money earmarked for other equipment type purchases to buy even more of the high-earning video games.

These were some of the major findings of PLAY METER's annual operator survey—which draws the

largest sampling of operators nationwide and surveys such vital signs in the industry as per-piece earnings, pricing and commission structures, new equipment purchases, free game ratios, and profitability. This year the survey once again amassed a large sampling of operator responses, generating a seven percent response rate.

Those operators responding to the survey represented a wide sampling nationwide. The operations they represented varied in size from those with only a few pieces of equipment

to those with several thousand pieces of equipment and who operated nationally.

This year, to take into consideration the differences in these various sizes of operations, PLAY METER sub-divided some areas of its research into operation size categories. Three general category sizes were used in this analysis: operations with 75 machines or less, operations having between 76 and 299 machines, and operations of 300 machines and over.

Video sweep

Responding operators reported that video games registered on the average a 59 percent increase in weekly gross collections, skyrocketing from last year's weekly gross average of \$64 to a new high of \$102.

And while video games were registering this significant gain, most other equipment types suffered decreases during 1980, apparently indicating that some of the money that ended up in the cashboxes of the video games was the money that was diverted from these other forms of coin-op entertainment. Pinballs, phonographs, foosballs, shuffle alleys, wall games, and air cushion games all registered decreases as far as their average weekly collections in 1980.

Pool tables were the only non-video game type in the coin-op family that registered an increase in the weekly collection average. Average weekly collections for pool tables improved nearly sixteen percent in 1980, apparently reflecting the move by operators toward better pricing structures with that price.

But not even the pool table was spared the losses when it came time for operators to buy new equipment. Because of the great business video games were doing throughout the year, operators leaned heavily toward buying more video games in 1980, even to the extent of forsaking the other equipment needed on their routes.

Eighty-four percent of those operators responding to the survey said they bought more videos in 1980 than

Weekly Gross	'80	'79	'78	'77
Phonographs	\$50	\$54	\$52	\$46
Pinballs	\$63	\$65	\$62	\$44
Videos	\$102	\$64	\$50	\$44
Pool Tables	\$66	\$57	\$53	\$41
Foosball	\$20	\$31	\$41	\$39
Shuffle Alleys	\$28	\$41	\$32	\$29
Wall Games	\$25	\$29	\$34	\$33
Air Cushion	\$34	\$27	*	*
Non-Video Arcade	\$33	*	*	*
New Purchases	'80	'79	'78	'77
Phonographs	3	5	5	5
Pinballs	13	19	21	13
Videos	22	9	12	12
Pool Tables	4	5	5	*
Foosballs	*	2	3	5
Shuffleboards	*	1	1	1
Wall Games	*	*	1	1
* Not able to be computed				

Avg. No. Pieces	Size of Operation (by number of pieces operated)						
	75 & Under	76-299	300-over	Nat'l Avg. 1980	'79 Avg.	'78 Avg.	'77 Avg.
Phonographs	2	25	112	43	44	59	50
Pinballs	16	59	241	98	91	99	66
Videos ¶	20	50	157	72	60	62	30
Pool Tables †	1	18	83	31	30	35	24
Foosballs	1	4	24	9	13	15	10
Shuffle Alleys ‡	1	6	11	5	6	6	4
Wall Games	*	2	6	3	4	4	4
Air Cushion Games	*	1	2	1	2	3	2
Non-Video Arcade	1	6	10	6	11	9	10

¶ Includes upright and cocktail models (16%)
† Includes bumper pool tables (1.2%)
‡ Includes shuffleboards (15%)

they did in 1979. Last year, according to PLAY METER's survey results, the average operator bought only nine videos, but this year the average purchase was of 22 such games.

Pinball was the big loser as far as new equipment purchases by operators. Last year the average operator purchased 19 new pinballs, but this year the average operator bought only 13 new flippers. New pool table purchases dropped from an average of five last year to four this year.

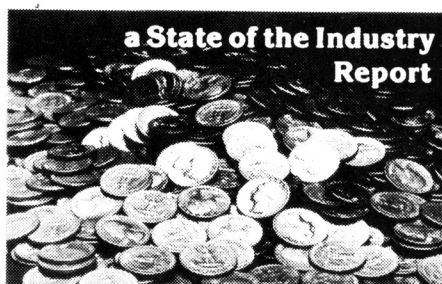
And the long-suffering phonograph took another beating in 1980. Phonograph purchases dropped from an average of five new jukeboxes in 1979 to only three in 1980.

The video sweep was distinguishable in all three operator size categories, but was most pronounced in operations with 75 machines or less. Notably, the "75 and under" category also had the largest percentage of operators who reported increased profits in 1980; 78.6 percent of the operators in the smallest category reported increased profits during 1980. By contrast, 70 percent of the operators in the middle classification reported increased profits, and 53 percent of the operators in the largest machines-operated classification reported an improved profit picture.

Another factor which appears to have affected the profitability pic-

ture in each of the three classifications is the percentage of operators in each group which make location loans. Only 12 percent of those in the small operator classification tied up usable capital in this manner, and 24 percent of the operators in the medium-sized range said they made location loans. But 49 percent of the operators in the largest classification size said they make location loans. The national average was 29 percent of all operators making location loans.

One other noteworthy trend was the tendency of the larger-sized operations to re-invest more heavily in the jukebox business than the smaller operations. Twenty-one percent of the operators in the largest machine class said they bought more phonographs in 1980 than in 1979. Among medium-sized operations, 19 percent of those responding said they bought more phonographs, and only nine percent of the operators in the smallest machine classification said they had bought more jukeboxes.



Average operation

According to PLAY METER estimates, the average size operation has 268 pieces of equipment, a slight increase over last year's average of 261 pieces of equipment. The record high in that category was registered in 1978 when the average operation had 298 pieces of equipment. But the scarcity and high cost of fuel forced operators last year to pare down on marginal locations.

Pinball, though registering a slight decrease as far as weekly gross collections and the number of new pieces of equipment bought, still remains the most pervasive coin-operated piece of equipment in the United States today. According to PLAY METER's survey results, an estimated 735,000 pinballs are presently being operated in the country today.

Video games, obviously enjoying a bumper season, are the second most placed piece of equipment in the United States today with about 540,000 coin-op video games being operated today.

Also, according to PLAY METER survey estimates, the number of phonographs on location has shrunk to about 322,000, and pool tables are holding at about 233,000 units of equipment. The total number of coin-operated amusement pieces on location in 1980, PLAY METER estimates, are around the 2.1 million mark.

Preferred Manufacturers

Editor's Note: The following percentages do not in any way reflect the manufacturers' share of the various markets.

Phonographs	'80	'79	'78	'77
Rock-Ola	37%	38%	29%	29%
Rowe	30%	26%	25%	28%
Seeburg	27%	32%	39%	38%
NSM, Wurlitzer	6%	4%	7%	*

Pinball	'80	'79	'78	'77
Williams	47%	17%	11%	22%
Bally	34%	64%	57%	53%
Stern	10%	4%	3%	*
Gottlieb	7%	12%	26%	23%
Game Plan	2%	1%	*	*
Atari	*	2%	3%	*

Videos	'80	'79	'78	'77
Atari	54%	47%	69%	59%
Midway	43%	49%	27%	31%
Others	3%	4%	4%	10%

Pool Tables	'80	'79	'78	'77
Valley	70%	65%	62%	57%
Irving Kaye	12%	11%	10%	7%
U.B.I.	6%	4%	6%	8%
U.S. Billiards	6%	4%	7%	10%
Dynamo	4%	13%	7%	5%
American	2%	3%	3%	4%
Others	*	*	5%	9%

Foosball Tournament	'80	'79	'78	'77
Soccer	54%	46%	46%	31%
Dynamo	24%	24%	22%	27%
Others	22%	30%	32%	42%

Wall Games	'80	'79	'78	'77
Gremlin	56%	70%	75%	89%
Sunbird	44%	30%	23%	*
Others	*	*	2%	11%

* Less than one percent

The average weekly collections from all this equipment is further estimated to be around \$137.5 million—or \$7.15 billion per year!

The number of pieces per location grew to 3.5 in 1980, reflecting a significant increase in the number of arcade locations in the country, since arcades are figured in with the national average. Last year the national average was 2.69 machines per location. According to this year's survey results, PLAY METER estimates there are about 23,000 arcades being operated in the United States today.

Pinball averages

Ever since the introduction of solid state technology in pinballs, there has been a growing trend toward more conservative free game percentaging. This trend continued in 1980.

Last year only 34 percent of the pinball games were percentaged at 30 percent free play or less. But this year the number of pinballs percentaged at 30 percent free play or less doubled to 69 percent. Thus, it appears that because of the extra play features on the newer pinballs, operators do not have to give away as much non-revenue producing free play time on their pinballs.

The actual free play percentage breakdown for the country is as follows: ten percent of the pinballs are percentaged to give free plays less than 20 percent of the time; 27 percent of the pins are gauged to award 20-25 percent free plays; 32 percent of the pinballs are set to award a 25-30 percent of free plays; 21 percent of the pins are set to award free plays in the 30-35 percent range; and seven percent of the pinball machines have a more liberal setting than 35 percent free plays. The percentage of pinballs which do not award free plays remained relatively unchanged at three percent of the total.

Sixty-seven percent of all the pinballs on location, according to the survey's findings, are set at three-ball, the balance being set, of course, at five-ball play.

Ever since the introduction of Bally's *Space Invaders* a few months back, a machine which left the factory on fifty-cent play, the question of fifty-cent pinball play has been a hot issue in the industry. The PLAY METER survey results showed that operators were split almost down the middle on this question, showing perhaps more acceptance for the idea than what was originally believed. Forty-six percent of the operators responding to the survey said they favored fifty-cent play, and 54 percent said they were against it at this time. Of those who favored fifty-cent play, 54 percent of them said they felt the fifty-cent games should be set on five-ball play. The remaining 46 percent preferred keeping the games at three-ball play.

Two other pinball questions which produced some interesting insights were the number of electro-mechanicals still being operated today and the number of wide-body pinballs being operated.

According to the survey results, only 78 percent of the pinballs being operated in the United States are solid state. The remaining 22 percent of the machines go back to the electro-mechanical days of pinballs. Most notable in this area is that the smaller operators had the highest percentage of solid state pinballs—88.8 percent. And, as far as wide bodies, on the national average, 11 percent of the pinballs being operated today in the United States are of the wide body configuration.

Location relations

In other matters of interest, the commission structure of operators nationwide still appears to be set

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dead-center on a 50-50 split with the location. In fact, 84 percent of the operators responding to the survey said that they are still working with this commission arrangement, but 13 percent of the operators now report they now get 60 percent of the weekly take, and the rest of the operators report that the locations make more money each week from the equipment than they do.

One way many operators have used to bypass the sticky problem of the 50-50 commission split with locations and still protect their investments is by extracting a weekly minimum guarantee or service charge. As far as the weekly minimum guarantee, 29 percent of the operators responding said they instituted such a practice, with the most common guarantee per week for the operator being \$25. As for the weekly service charge, only four percent of the operators said they had actually instituted such a practice. The most common weekly service charge they reported was \$10.

The leasing or rental of the coin-operated equipment, a practice which many operators look upon as a dangerous precedent leading into location-owned equipment, was also one of the areas of inquiry in PLAY METER's 1980 survey. PLAY METER found that the piece of

equipment most often leased was the phonograph. Of the operators responding, 27.2 percent said they rented phonographs, with the range per jukebox being \$15 to \$50 per week. The second most rented piece of coin-op equipment was the pool table, which 9.7 percent of the respondents said they rented out to locations; the average per-week rental for pool tables was reported at between \$15 and \$35.

Although phonograph purchases continued on a decline throughout 1980, record purchases remained somewhat constant, dropping only slightly from last year's average of 3.3 record changes per box per week to a new per-week average change of 3.16 records.

Employees and preferred brands

The PLAY METER survey also queried operators extensively about the employees they carried on their payrolls. Here are some of those findings:

—The total number of employees for the average size operation is 6.59 employees.

—The average number of servicemen per operation is 3.47.

—The average mechanic in the industry earns \$270.48 per week, with the range varying from \$150 to \$500 a week.

—The total number of personnel

employed by operators in the United States is estimated to be around 50,000.

—For the average operation, there is one employee for every 42.5 machines operated.

There were some notable changes as far as brand preference in 1980. Rock-Ola held onto its status as the most preferred phonograph manufacturer by U.S. operators, but Rowe supplanted Seeburg as the second favored line. Seeburg, which went bankrupt this past year before being sold to Stern Electronics, dropped to third place.

In pinball, Williams, which was the preferred manufacturer of only 17 percent of the operators last year, shot past Bally, garnering a 47 percent approval rate from pinball operators. Bally dropped to second place with 34 percent, and Stern moved into third place ahead of Gottlieb.

In upright videos, Atari reclaimed the top status from Midway. Last year Midway was the preferred manufacturer over Atari by a close 49-47 percent vote. This year Atari, enjoying its most successful game ever, *Asteroids*, moved ahead 54-43 percent.

In pool tables Valley remained the most preferred brand name. In foosball it was Tournament Soccer. And, in wall games, Sunbird narrowed the gap on Gremlin. •

Five years ago in Play Meter's pages.....

November, 1975

The Music Operators of America Show was the talk of the industry, as reported in PLAY METER. An electronics company, Mirco Games, Inc., of Phoenix, Arizona, had introduced the microprocessor in a pingame, "*Spirit of '76*". The electro-mechanical hardware of a pinball game was on its way out—and it was not one of the "Big Four" pin manufacturers which had taken a chance on change *first*....

The major leaguers did have prototypes about to be released and on display at Chicago, however. PLAY METER noted Bally's *Flip Flop*, Chicago Coin's *Blue Max*, and Williams' *Space Mission*. Another solid state pingame came from Allied Leisure: *Dyn-O-Mite*, which had some EM features incorporated. And a two-player competition pingame was introduced: *Invasion Strategy* from Komputer Dynamics, involving

point scoring while attempting to disable the opponent's flippers.

At the show, too, were gun games, shark games, tank variations—but the microprocessor, the child of new technology, "was perhaps the most significant technological advance of the show," PLAY METER commented, "because it has the greatest potential for changing the industry." (Mirco's SS pin, however, was never mass-produced.)

In the New Products pages, November 1975, were reflections and refractions from the MOA show just passed...Chicago Coin bowed its *Shoot Out*, featuring an illusory three-dimensional shoot out with a Western baddie....*Shark* from U.S. Billiards called on players to elude a shark in a maze....And that company introduced *Jai-Alai*, an air table game....Mirco put the microprocessor into another game, the *PT109* cocktail table, for sinking ships, with special effects....*Air Handball* came

from Brunswick's Briarwood Division....Williams Electronics showed the four-player *Little Chief*.

In the news pages, we reported sadly that Mr. Earl Feddick, president and founder of Valley Manufacturing, died October 6, 1975, at age 80....Ted Nichols, a veteran music and games operator from Fremont, Nebraska, took over the reins as MOA president from outgoing Fred Collins, Jr.; and Mrs. Leoma Ballard of West Virginia was elected as the first MOA woman vice president....North Carolina coin operators were strengthening their association....

The U.S. Supreme Court had recently refused to overturn a New York State Court decision that left pingames prohibited in New York City. The city ordinance at that time stated that pinball games were games of chance, not skill, and were widely used as a means of gambling, therefore illegal. •

The score in the Senate: for and against jukebox operators

Lest We Forget

Here's the complete list of U.S. Senators who voted for and against the Hollings amendment in 1976. A "Yea" vote on this question would have exempted jukebox owners from the taxing clutches of the Copyright Royalty Tribunal. A "Nay" vote was, in effect, against the jukebox industry and in favor of the performing rights societies. The senators are identified by their political affiliations and the states they represent. Those senators who have asterisks () beside their names are no longer in office. The list is reprinted because of the timeliness of the 1980 election season.*

Yeas (Pro-Jukebox Votes)

Abourezk*
Allen*
Bumpers, Dale (D-Ark)
Cannon, Howard (D-Nev)
Chiles, Lawton (D-Fla)
Church, Frank (D-Ida)
Clark*
Culver, John (D-Iow)
Curtis*
Durkin, John (D-NH)
Eastland*
Ford, Wendell (D-Ky)
Goldwater, Barry (R-Ari)
Hatfield, Mark (R-Ore)
Helms, Jesse (R-NC)
Hollings, Ernest (D-SC)
Johnston, J. Bennett (D-La)
Magnuson, Warren (D-Was)
McGee*
Mondale*
Montoya*
Morgan, Robert (D-NC)
Nunn, Sam (D-Ga)
Proxmire, William (D-Wis)
Scott, William*
Stennis, John (D-Miss)
Stevens, Ted (R-Alaska)
Stone, Richard (D-Fla)
Thurmond, Strom (R-SC)
Young, Milton (R-ND)

Nays (Anti-Jukebox Votes)

Baker, Howard (R-Tenn)
Bartlett*

Bayh, Birch (D-Ind)
Beall*
Bellmon, Henry (R-Ok)
Bentsen, Lloyd (D-Tex)
Brock*
Brooke*
Buckley*
Burdick, Quentin (D-ND)
Byrd, Harry (Ind-Va)
Case*
Cranston, Alan (D-Cal)
Dole, Robert (R-Kan)
Domenici, Pete (R-NM)
Eagleton, Thomas (D-Mo)
Fannin*
Fong*
Garn, E.J. (R-Utah)
Glenn, John (D-Ohio)
Gravel, Mike (D-Alaska)
Griffin*
Hansen*
Hart, Philip*
Hartke*
Haskell*
Hathaway*
Huddleston, Walter (D-Ky)
Humphrey*
Inouye, Daniel (D-Haw)
Jackson, Henry (D-Wash)
Javits, Jacob (R-NY)
Kennedy, Edward (D-Mass)
Leahy, Patrick (D-Utah)
Mansfield*
Mathias, Charles (R-Md)
McClellan*

McClure*
McGovern, George (D-SD)
McIntyre*
Metcalf*
Moss*
Muskie, Edmund (D-Maine)
Nelson, Gaylord (D-Wis)
Packwood, Bob (R-Ore)
Pearson*
Percy, Charles (R-Ill)
Randolph, Jennings (D-W.Va)
Ribicoff, Abraham (D-Conn)
Roth, William (R-Del)
Schweiker, Richard (R-Pa)
Scott, Hugh*
Sparkman*
Stafford, Robert (R-Vt)
Symington*
Talmadge, Herman (D-Ga)
Tower, John (R-Tex)
Tunney*
Weicker, Lowell (R-Conn)
Williams, Harrison (D-NJ)

Not Voting

Biden, Joseph (D-Del)
Byrd, Robert (D-W.Va)
Hart, Gary (D-Col)
Hruska*
Laxalt, Paul (R-Nev)
Long, Russell (D-La)
Pastore*
Pell, Claiborne (D-RI)
Stevenson, Adlai III (D-Ill)
Taft*

For a complete list of U.S. Congressmen who voted for and against the copyright law revision, see PLAY METER, July 1979, page 42. A "Yea" vote in the U.S. House in this case was against the interests of jukebox operators; but, in all fairness to the members of the House of Representatives, the jukebox issue was hardly even mentioned. Members of the House Judiciary Committee, however, should have been aware of the complications the bill presented to jukebox operators in America. Those members are noted in the July, 1979 listing.

The Winners of '80

Firepower and Asteroids lead the poll

Williams' *Firepower* and Atari's *Asteroids* dominated the pinball and video game categories respectively in PLAY METER's annual operator poll. The two games, voted by operators nationwide as the leading money earners in their categories, outdistanced the rest of the field by a wide margin.

It should be noted that the top pinball game of the year (as well as the top entries from Bally, Cinematronics, and Gremlin) were all unveiled as late as March, at the Amusement Operators Expo in New Orleans. With a deadline of September 15 for survey responses, the poll asked operators to list in order their top five earning pingames and top five earning videos. Later-released games generally have in the past shown better voting results in the following year's poll; however, the Spring 1980-released *Firepower* and *Space Invaders* pingams were heavy pullers in the year they debuted.

Top Pins

1. **FIREPOWER** (Williams)
2. **GORGAR** (Williams)
3. **SPACE INVADERS** (Bally)
4. **FLASH** (Williams)
5. **METEOR** (Stern)
6. **SILVERBALL MANIA** (Bally)
7. **GALAXY** (Stern)
8. **STELLAR WARS** (Williams)
9. **BIG GAME** (Stern)
10. **GLOBETROTTERS** (Bally)
11. [Tie:]
SHARPSHOOTER (Game Plan)
KISS (Bally)
13. **PLAYBOY** (Bally)
14. **LASER BALL** (Williams)
15. **PARAGON** (Bally)
16. **GENIE** (Gottlieb)
17. **TIME WARP** (Williams)
18. **SPIDER-MAN** (Gottlieb)
19. **SEAWITCH** (Stern)
20. [Tie:]
SUPERMAN (Atari)
STAR TREK (Bally)



Top Videos

1. **ASTEROIDS** (Atari)
2. **GALAXIAN** (Midway)
3. **SPACE INVADERS** (Midway)
4. **ASTRO FIGHTER** (Gremlin and Data East)
5. **DELUXE SPACE INVADERS** (Midway)
6. **RIP OFF** (Cinematronics)
7. **MONACO GP** (Gremlin)
8. **TAILGUNNER** (Cinematronics)
9. **MISSILE COMMAND** (Atari)
10. **FOOTBALL** (Atari)
11. **TARG** (Exidy)
12. **DUEL** (Gremlin)
13. **STAR FIRE** (Exidy)
14. **SPACE WARS** (Cinematronics)
15. **COSMIC ALIEN** (Universal)
16. **BANDIDO** (Exidy)
17. **SPRINT II** (Atari)
18. **LUNAR LANDER** (Atari)
19. **CARNIVAL** (Gremlin)
20. **MOON ALIEN** (Nichibutsu)

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Coming of age

Pins and videos show signs of growing pains

By Roger C. Sharpe

It may well go down in coin-machine history as the year that pinball began to slide into oblivion. At least that's the impression one could get given all the press lately in the trade about how pinball is on the way out. You talk to operators, distributors, and even manufacturers, and across the line, everyone is admitting that things have been a bit 'soft' regarding pins. And when you press a little further, what you get in return are some proposed drastic measures to help save pinball.

The preoccupation seems to be to find a remedy to cure the ills of the game, and even PLAY METER's own David Pierson offered some fairly intriguing possibilities in a recent issue.* But all isn't bleak as most would believe.

Taking a closer look at the industry, one can see trends and cycles that have repeated themselves on numerous occasions over the years. In fact, looking for an analogy, one need only go back to the late '30s and the advent of payout machines—which gave rise to pinball's eminent ruin, both legally and in terms of earning potential. However, pinball made it through only because it offered basic entertainment that appealed to a wide enough portion of the population as to keep it a viable product to produce and operate. Forty years later, the same holds true, although the changes which will undoubtedly unfold will probably prove to be far more dramatic.

One cannot take anything away from video, which in less than a decade has outmoded the conventional arcade games of old. Rifle games and other arcade machines, including skee balls and other

*"Wanted: Imagination" in *PLAY METER*, August, 1980, page 16.



offshoots, have all given way to the video demand and craze. We have watched the highs and lows of video—the long fight for acceptance, the similarity of theme and play as well as the glut of companies which now are only a memory, and finally, the talk in the mid-'70s that video might well be on the way out. The slow period had development and technology traveling hand-in-hand to get the resulting equipment to the stage where it is today. But even now, one wonders of the future and whether a basic few games can keep the interest of the players. After all, beyond *Space Invaders* and *Asteroids* (and their succeeding take-offs), where is video going? Are we to believe that the *Diggers*, *Carnivals*, *Missile Commands*, or other upcoming models will also hold the player and captivate him? Or, is video also destined to fall in another

year or two, due to the lack of originality, the maintaining of the status quo—and the idea that the players are satisfied with what is out and won't become jaded and fickle as they become more sophisticated and demand newer challenges? No one talks about this notion only because earnings continue to be at such high levels; instead the only conversation is how to milk out more money from the player and that 50-cent play must be mandated if the industry is to survive ever increasing rises in costs. Why not \$1 play and really rack in the money, or are we to believe that 50-cent play is the threshold and the amount the public will be willing to bear?

I for one feel that if any equipment can get away with the increased price, it's video only because it's the "hot" game in town, and people will probably pay the price to press

buttons and watch the action on a four-color screen (no one ever said the audience was smart, let alone discriminating). But then, with the increased price and the ever-widening appeal and acceptance of home computers, who's to say that playing video at home with the use of a cartridge, won't be more desirable than playing one at the local game room?

But this story isn't about the future of video and whether it too can survive and evolve over time. If money is to be made, someone somewhere will find a way to adapt and keep it going. And that also holds true for pinball. Except, for pinball, problems may well be more severe only because most of the speculation borders on dancing in the dark. No one knows exactly what it's going to take to bring the players back—if anyone did, you'd find the game out on the street and every manufacturer ready to copy it.

Indeed, pinball is in transition. The manufacturers aren't really sure what it's going to take to bring the player back, but they're willing to try almost anything. Interestingly, no one has come to the realization that pinball is really tapped out—not the designs, mind you, but the number and type of player appealed to. Let's face it: pinball is a horizontal industry as it stands now. All the same players are being hit with the same types of games and rather than spend five dollars a day to play, they're getting bored with the new equipment because it's only offering a rehash of the same features, and so they're spending only a dollar or two. And that's where the drop off has come.

Three Kinds of Players

To understand the audience, one must first accept the idea that there are really only three kinds of players: video game enthusiasts, pinball players, and those who play a little bit of both. The third group really isn't the potential market, because it's these people who will play if there's a game around, but won't necessarily go out of their way to play either video or pinball.

So what you're left with is the hardcore following. And unfortunately for pinball, the video following is increasing. Why? Because the video games are so much better than pins? No, not really. The reason is that video is still far more respectable, less intimidating, and less juvenile than pinball.

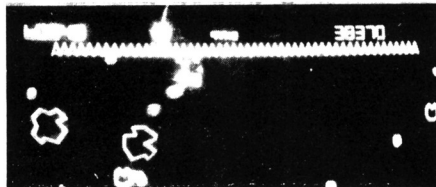
There it is, a TV screen and some

buttons to push—no more, no less. It's a comfortable medium for the majority of people born into the age of the boob tube. The play seems far more sophisticated than pinball: space battles, car races, sports—whatever the theme, the appeal transcends age barriers so that the guy in a three-piece suit can play just as easily as the kid in a pair of Keds and cut-offs. The physical exertion, outside of something like Atari's *Trak Ball Football*, is far less pronounced than with pinball where you really have to get involved in the playing of the game. Video, after all, is a fairly passive endeavor where all you have to do is be able to rapidly press a button or move a switch.

And as for intimidation and the youth aspect of pinball, video's a rather cool medium when you consider that anyone can just go up and play fairly easily without feeling uncomfortable or put off. This doesn't mean that anyone can play well without a sense of what the game is all about, but somehow, one can cover-up the ineptitude far easier with video. With pinball, on the other hand, there it is: garish colors and fanciful artwork that no matter how adult the theme, is still geared for the teenager, plus the flashing lights and loud, grating sounds that are enough to send anyone for ear-plugs. Don't get me wrong; personally I can accept all this when it comes to pinball, but there are a great many others who just can't. It's not subdued enough for them. And it's this audience that will be the bread and butter for the entire industry before too long: the adult player.

Forget the teens and youngsters and concentrate on the newest disciples of the game industry: post World War II babies now boomed into adulthood and even their slightly older aunts and uncles. The primary market for the video game and soon all games will be that catch-phrase advertising group: the 18-to-35ers who have the money to spend on some frivolous entertainment. And when you take this market you begin to realize where the games are going and why they're doing what they're doing.

Flat out fact is that pinball is blue collar through and through, while video has leaped into white collar respectability. Video makes it to the places where pinball *can't* go, and not the other way around. Think about it because it's true and I'm not talking about the size of games as the major factor. Hotel lobbies, bars,



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waiting rooms in passenger terminals, almost everywhere there is a possible audience, video has managed to sneak its way in. Not pinball, however.

Still the outcast to be ignored and put up with only as a last resort, pinball holds onto its image and stigma like a vice and disease that continues to riddle its very being and all that it truly stands for. And an unsympathetic industry offers no saving graces for a better understood future.

Admittedly, there have been some inroads regarding pinball in terms of a few charitable concerns where pinball has had a part, but no concerted effort has yet to be undertaken by the industry as a whole. Obviously, this is something I feel strongly about and a matter to which I have addressed myself all too many times in the past. But its importance cannot be stressed enough for the betterment of pinball and the coin-machine industry in general.

Pinball Evolution

However, the purpose or aim of this particular exercise in rhetoric is to more fully explore and understand the quagmire pinball finds itself in. As the new decade looms ever more foreboding, the future of pinball has offered itself presently in three forms: conventional, wide-body, and big game size. As for the evolution of electronics, maybe the things which are being accomplished are too subtle for the general players to accept or even for the operators to understand when they see the earnings progressively dropping.

If one can objectively look at the games since *Eight Ball* and the first introduction of memory and recall, admittedly things have gone slowly, but maybe because of video's recent surge, improvements have happened far more rapidly as of late. There has been the utilization of memory drop targets, which holds out the hope for far greater design possibilities, and beyond this development other facets are also finding their way onto the newer vintage machines.

Ask any oldtimer in the industry and you'll hear that each "new" innovation has been done before in some way, shape or form. So maybe the answer for pinball lies in going back to its roots and resurfacing features that may indeed be better the second or even third time around, given the advent of solid state.

At least this seems to be the

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direction pinball is now taking. You can see it in games reviewed this month and will undoubtedly see it on the Convention floor over Halloween weekend.

To grasp my argument, just look at some of the things being produced or even talked about today. One sees multiple-ball play, the rumors of multi-level playfields by no less than three manufacturers, and something which has also begun to creep into pinball and may yet be the focal point of future efforts: time.

If you can remember Williams' *Travel Time* from the not too distant past (1973), there was a game slightly ahead of its time (no pun intended). In an age of five-ball games, which might have played a bit longer than their contemporary counterparts, *Travel Time* was based on keeping the clock filled with extra seconds, and if you played one ball or one hundred, it didn't matter since the whole rationale behind the game was to keep that clock building up to its max. Well, update this idea and even take into account some ideas being thrown around (including David Pierson's in *PLAY METER*, August 15) and you'll find that *Father Time* is catching up to pinball.

Maybe the reason is that video games have always been predicated on that elusive of all elements, time. Sixty-second games for a quarter and there was pinball, going on forever, or so everyone thought when it came to the cashbox. But times have changed and with the video revolution in full force, pinball has cast its gaze to beating the clock, or so it seems.

Gottlieb's *Counterforce* has a little timer tied into its drop targets and bonus multiplier and almost all the features on the board; Williams' new wide-body has a backglass timer right up there in sight, tied into features on the board; and Bally's upcoming *Viking* also has some features where values are predicated on beating the hidden clock. And with these machines at hand, can the rest of the competition be far away, let alone these companies themselves and any future efforts getting off the drawing board?

Will time be the savior of pinball? Well, honestly, only time will tell. And ultimately, only the players will decide if they like the way the manufacturers and their designers use it. After all, pinball is a slow game when it comes to change, and in a way the players are also slow to pick up on the things being done. How many times have you watched someone playing a Williams' *Fire-*

power and not seen them take advantage of the "lane-change"? As I said previously, the majority of pinball players, although more sophisticated, are still intrinsically afraid and intimidated by the games. It's part of the allure as well as the curse of pinball.

But how can the players be brought back into the fold? Easily. All they need are games which are not rehashes of old themes, games not so simplistic to master that they get turned off after the first few plays, and by the same token, games that aren't so difficult that they feel cheated out of the money they've spent only because they don't think they're getting equal value.

Pinball, it seems, has cast its gaze to beating the clock...

But the problem with pinball is that one can sense the manufacturers are getting to the point where they're running scared. Each bemoans the fact that the market is soft for their product and yet the elusive qualities needed to bring the games back to their former glory remains unknown to everyone down the line, even the players.

The answer, however, is simple. All that's needed are good, basic, solid pinball machines with build-up of action and the ability to keep a player involved because features can't easily be "maxed" out. This last point is rather difficult to explain, but quickly stated, it really revolves around the idea that features on the playfield remain alive throughout the play of a game, with their limits almost unattainable on a repeated basis—such as the filling up of the cards on Stern's *Big Game*. It insures continued play, only because a player has something to strive for. But then, even this point aside, the industry remains its own worst enemy.

Production Glut

The problem is reflected in the extreme glut of games being poured out onto the market. Everyone seems to be caught up in the frenzy

of number of games produced in a day and number of games made of a particular model. What we have are too many games and too many models of each game, a hue and cry about which has not been sounded in the business long and loud enough. Players are overwhelmed, operators are gorged, and still it continues.

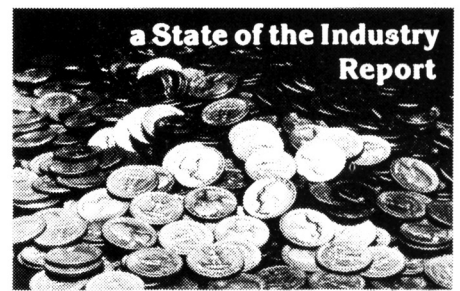
Players no longer have the time to get used to a machine and return to play it in the hope of mastering it. Instead, they flee to the new games, hoping to find that elusive element which may make them return time and time again. As for the operator, he is left with a situation that finds him trying to trade in almost new equipment, where he gets inadequate value for it, in trying to upgrade his machines and keep up with his competitors. How can anyone win, given this business trend?

The more logical, sound approach would have companies methodically pouring over games to insure that each is a winner. Maybe four to six models a year would be offered, with realistic runs which wouldn't flood the market and bring down the trade-in price.

Sometimes less can mean more and it is a fact that the industry must wake up to if it is to survive. After all, how long can it continue at the pace presently in progress—games coming out almost every week, if not every month? If one hits, the run is extended and the factory gears up; if not, it's out with the old and on to the next new game. Hit and miss, hit and miss. Somehow, there's a more realistic solution. One hopes so; just look at video and the lengthened runs of machines. But pinball hasn't been strong enough to sustain itself and that is the crux of the problem.

For the future one can only wish for a balance on all levels; improved and greater insight into the advancement of pinball as an entertainment form appealing to a more than willing and forgiving audience; hopefully, the expansion to newer markets and players never offered the opportunity to play pinball on a regular basis; and, finally, the realization that pinball is here to stay.

The format must stay the same, for pinball is what it is. Evolution and the greater understanding of electronics will undoubtedly mean alterations. However, the basic commodity is pure in a sense unique to itself. And when it comes to pinball, one can only pray that this will be understood, accepted and underscored by what the next generation of machines holds. •



If it smells like a tulip...

The Hit Syndrome

By David Pierson

There have been times throughout history when the otherwise rational faculties of men were clouded by collective visions of quick riches.

In 1634 in Holland, for instance, there was an enormous demand for tulips. *Tulipomania* is what it's called today. People invested everything they had in tulips and tulip futures, and for awhile it was a wise investment on their part. But they made the mistake of continually re-investing all their newly-gained riches back into more and more tulips. Apparently few thought of diversifying themselves, of investing some of their tulip profits in wooden shoes, a steady though somewhat unspectacular market.

Then one day someone had the nerve to say he didn't think tulips were worth all that much money. So people started to reconsider; then they began to back off. The trade-in value of tulips plummeted, bankrupting many people who had all their money tied up in the damn flowers. Great financial empires collapsed, and the losers were forced to develop a taste for eating the bulbs as they went in search of honest work.

During the last century, there was a gold craze. One lucky strike was all it took, they said. One lucky strike, and you were home free. So again people staked everything they had on their chances of striking it rich. Few won. Most lost everything.

Then a few years ago in this industry we experienced a *Pong* fad. Coin-operated video games burst onto the scene and very quickly

started opening doors to many new and different types of locations. Regrettably, some operators went a little overboard during this period. They over-invested in *Pong*-type games and re-invested all their *Pong* profits to buy more and more of these games.

Then when the games lost their appeal, operators found themselves holding a lot of games with little or no trade-in value. To make the problem even more severe, since these operators hadn't re-invested in other equipment types, they had nothing to fall back on.

As a result, many operators went out of business. And others found it could be a long way back.

Recognizable games

But, fortunately, we don't suffer from *manias* anymore, nor crazes, nor *fads* (although, from time to time, we'll catch a *fever* for disco or some other passing fancy). We are becoming much too sophisticated for such passions. What we experience now has a more scientific, highfalutin name. It's called a *syndrome*. Last year's Three Mile Island fiasco, for example, gave us the *China Syndrome*. And that indicates pretty much what a *syndrome* is.

Unlike *crazes*, unlike *manias*, and unlike *fads*—a *syndrome* can be expected to stay around for awhile, like the trapped waste at the Three Mile Island nuclear plant.

In this industry right now we're faced with our own kind of syndrome, "The Hit Syndrome." And whether we like it or not, the state of the industry right now is in the grips of this phenomenon.

The Hit Syndrome. Is it good? Is it bad? When did it start? When will it end?

But, mostly, what is it?

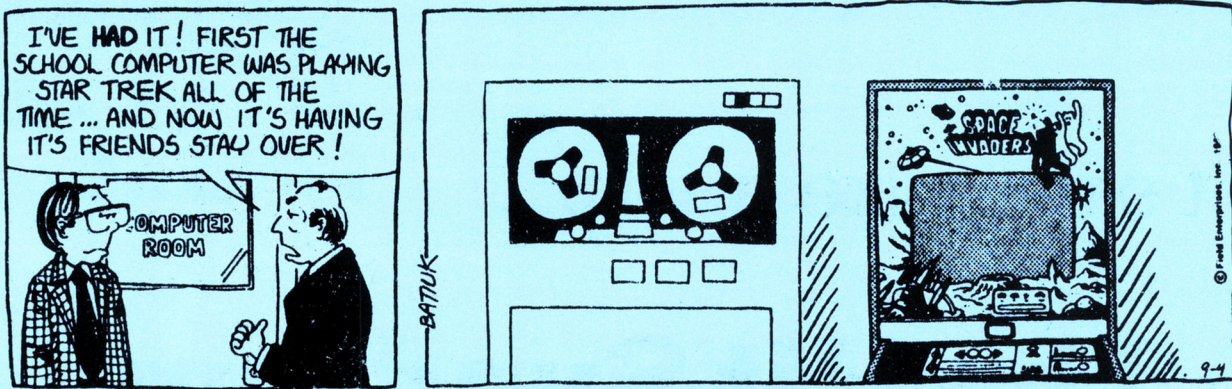
Simply stated, it's a case of operators buying only superlative pieces of equipment. Presently the video game industry is riding on the coattails of some truly unqualified hits—such as *Space Invaders*, and *Asteroids*, and this has created a trend of excessive video game buying. But what many industry people are not aware of is the motive behind this video buying trend.

As one distributor put it, "The Hit Syndrome goes a lot deeper than what people talk about. The Hit Syndrome is more than operators' buying habits. We have to understand what is driving the operators' buying habits. And it is this: The Hit Syndrome has penetrated down to the locations. Locations are demanding specific pieces."

That seems a fair assessment. In the past, coin-operated amusement equipment was operated in relative anonymity. One pinball machine was not distinguishable from another; and, in the public's eye, one video game blurred in with all the rest. But that isn't true today.

One of the many indicators of how recognizable certain video games have become is the attention given those games by the national media. For instance, "Funky Winkerbean," a comic strip syndicated nationally by Field Enterprises, Inc., recently featured a faithful reproduction of Taito/Midway's *Space Invaders* as part of the gag line. This marks a deviation from the past when,

Funky Winkerbean



The 'Funky Winkerbean' comic strip above shows how recognizable some video games are becoming for the general public. In the past it would have been a faceless video game depicted in such a cartoon.

instead of depicting specific game models, cartoonists would resort to depicting generic video or Pong-type games.

In another recent example, "The Wall Street Journal" ran a lengthy front page article on the video game phenomenon, citing the special player appeal of *Space Invaders*, *Asteroids*, and *Galaxian*.

Certain pieces of equipment, because of their ubiquity, are just naturally becoming more recognizable to the general public.

And it bodes well for the industry that daily newspapers, national general interest magazines, and television are beginning to show some interest in the peculiar appeal of these games too. Profits are up significantly, as PLAY METER's annual operator survey indicates (published elsewhere in this issue). A whopping 67 percent of those operators responding said their profits increased over the past year, and the biggest reason has to be the video game phenomenon. The average operator reported video game collections increased by 59 percent over the past year!

Reverse leverage

But not everything is coming up tulips. And it's exactly because of the public's awareness of certain game models.

In the past, because of the generally faceless nature of most of the equipment, operators had little trouble as far as assigning pieces of equipment to various stops. Because the locations knew little or nothing about which games were better than others, they were forced pretty much to accept the word of the operator that a certain piece was best for their locations. The operator

was, in their eyes, a games expert.

But now, because of the sheer numbers of certain models, it's no secret which are the really super games, and for many operators, their role has changed from that of a games expert to that of an order taker.

In the past, the operator could use the super hit game as a leverage piece to gain a prized location, but now the operator is a sort of willing victim of reverse leverage. And herein lies the seed to a potential problem. Location demand for a specific piece is not good—no matter how profitable the piece. And there are three reasons for it.

1. Capital budgeting plans go right out the window. If an operator's locations all start specifying that they want a specific model, the operator will be forced to over-equip his route. He'll have to dig deeper into his pocket to buy more of that game than what he should really buy, according to his finances. And, doing so, he will naturally be taking away cash reserves he had earmarked for the rest of his route—i.e., pinball, phonograph, pool, etc. As a result, the operation becomes unbalanced, and the operator has too much of his investment committed to one area. Though the piece may be profitable, it could set him up for a tremendous cash flow problem later on when the game's earnings start to dip and he needs to replace the piece.

2. If the operator sticks by his capital budgeting plans and doesn't buy the piece for the location, the operator could stand a good chance of losing that location. He may even find it rough going to get the location's cooperation on future considerations, such as a price increase, a weekly minimum guarantee or ser-

vice charge, or even a commission change.

3. If the location owner sees that he could get back his return on the game very quickly, he may just avoid the operator altogether and buy the piece direct.

So many operators, considering these possibilities, have opted for over-investing in certain types of equipment. In effect they're taking their chances they won't experience a cash flow problem in the future, in order to avoid losing the location to another operator or to a direct sale. And since they are working with only limited cash reserves, many have had to lean on their distributors, more than they did in the past.

And many distributors, likewise, afraid of losing a good customer, have too often extended credit beyond the reasonable limits.

Now some distributors are reporting that, as far as they're concerned, times have never been better. And others are saying that slow pay isn't any more of a problem than it has ever been. But, for the most part, these distributors are the ones who have tightened their credit policies so that slow pay doesn't get out of hand.

But a disturbing number of distributors are giving still another story.

Says one eastern distributor, "We're having to put more emphasis on collections. We haven't been giving any extension on time, though. But, I'd say we're spending about thirty percent more time on collecting on accounts."

A midwestern distributor agreed. "Manufacturers have tightened from 60 or 45 days to 30 days. And our turn-around on cash hasn't changed. So we have to exert more pressure on operators to meet these demands,



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but our cash turn-around isn't any worse than it was three years ago.

It's just that it requires more work for distributors to get their money as fast as they used to.

And others are not as fortunate.

One southern distributor had this to say: "Yes, our accounts receivables are turning over longer than in the past. This is partly because of the higher cost of the equipment and partly because operators have been forced to buy more videos.

"Operators' collections are up," he continued, "but they're really making the same amount of money they made in the past. The video income has picked up, but at the expense of the pinball income. Video has taken income away from flippers. We're showing pinball income down about thirty percent for the past two months, and video is just picking up that decrease."

He said his paid-off volume was off approximately thirty percent. "The reason," he explained, "is operators are having to buy so much product. Their outlay is greater. The strain isn't any greater for the arcade operators. In fact, shopping center mall operators are in better shape than ever before. But street operators didn't have that many videos,

and so they are having to fill that void."

A northern distributor echoed the same feelings. "We're running at about a twenty to thirty percent increase in dollar delinquency. Operators are ending up with obsolescent equipment, and so they are being forced to over-equip their routes. And they can't finance this out of the cashbox or out of their reserves. So they are doing it many times at the distributor's account.

"The cost of this incredible replacement," he said, "is breaking the back of his distributor. And operators need the help. The huge bulk of their equipment is depreciating quickly, especially their pins."

Filling the pipeline

This is not the first time operators have been forced to replace an inordinately high number of pieces on their routes. Right now videos are the darlings of the industry, but a few years ago pinball underwent similar boom times.

When the pinball makers changed over from electro-mechanical to solid state technology, operators found themselves with a whole lot of pinballs that were suddenly obsolete. To overcome this technological ob-

solescence, they had to buy greater numbers of pinballs.

Pinball production runs were outlandishly high during this period, and the number of models was also great. Yet nearly everything coming out of Chicago was gobbled up immediately by the market. The new solid state pinballs were filling a pipeline, just as the video game companies are filling a pipeline now.

PLAY METER's annual operator survey of that year reported that pinball collections increased by almost 41 percent. Much of that increase was brought about because of the better play features, and because of the better pricing structures operators could get for the games.

Sixty-one percent of the responding operators said they were buying more pinballs than they had the previous year. The average operator that year purchased 21 pins, as opposed to 13 pinball purchases the year before.

According to PLAY METER's operator survey this year, we see the same trend, only magnified. Eighty-four percent of the operators bought more video games this year than they did last year. The average operator's new video game purchases increased this year from nine to 22!



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The only problem with good times is that harder times usually follow. In the case of pinball, for example, after the pipeline had been glutted, pinball makers found it hard to adjust to their previous production levels again. Their payrolls had swelled to accommodate the increased production demands, and afterwards they had to make some necessary layoffs.

The same thing could be in the offing for the video game companies if they choose the same course pinball took, and indications right now are that they are taking the same course.

Another pinball boom?

The video game buying trend has sent a lot of manufacturers back to the drawing board to come up with new and better ideas. This is especially true for the pinball manufacturers who had fallen into a sort of rut when they were filling the pipeline. Almost everything they had been turning out was accepted gladly. But after the solid state conversion had been completed, these manufacturers had little more to offer. The problem was, during that pinball boom period, the pinball manufacturers' energies were almost totally expended in filling the immediate demands of the marketplace—i.e., supplying product as fast as possible. This left little time to develop new game ideas.

And the new game ideas that did surface, were introduced too slowly. As it turned out, the pinball manufacturers were probably playing a shell game with new features among one another, thinking their only competition was with the other manufacturers in Chicago. What they didn't anticipate, of course, was the phenomenal surge in video games, all of which was initiated by the novel play concept introduced in *Space Invaders*. It has forced them to realize that their competition isn't centered just in Chicago, but stretches out to the west coast and even to Japan.

The pinball manufacturers believed the introduction of new play features could be done on a gradual basis. After all, they figured, why deliver with your best, when you can

introduce these innovations gradually and get the most mileage out of each one. This is a business, after all. Why should a manufacturer change to something else when he can still get some good mileage out of what he's presently doing?

But now that the video game companies have issued the challenge, we can expect the pinball manufacturers to dig a little deeper into their bag of tricks. They're cleaning out the cobwebs in their research and development departments and are coming up with some new and exciting gimmicks to stimulate renewed interest in pinball.

We now see one such innovation being tried—pinball machines based on per-time play rather than per-ball play. And, at long last, we can expect to see multi-level, multi-ball pinball games popping up on the market. The introduction of these play features has been speeded up because of the great video game challenge.

The Hit Syndrome, it appears, has broken up the logjam of ideas among the pinball manufacturers. Instead of merely changing over to videos, the pinball companies can be expected to turn out some truly blockbuster games almost immediately.

Although some pinball companies are starting to manufacture video games, none of the Big Four pinball manufacturers has any intentions of forsaking the pinball market. Instead, expect a renaissance in pinball.

Video innovations

And herein lies a threat to video.

Despite the general euphoria associated with these video darlings of the industry, there are beginning to be heard some rumblings as far as what the video game companies are going to do for an encore.

For their part, the video game makers insist they still have quite a number of tricks up their sleeves, but the industry has heard that before. That's just what operators and distributors were hearing when pinball was converted over from electro-mechanical to solid state. The industry heard a lot of things about how solid state would provide added potential for pinball. As we all know,

that potential has still hardly been tapped.

Now it's quite possible that while the pinball manufacturers are working overtime designing new playfield features to attract attention back to pinball, the video game manufacturers are beginning to experience a great deal of inertia. Instead of coming up with new themes and new game ideas, the video game companies have, for the most part, simply been re-hashing and embellishing the same thing that worked last year. Lest we forget, *Galaxian* is itself a copy of *Space Invaders* motif, as is *Asteroids* (though somewhat less apparent).

Videos can probably ride this wave of enthusiasm for awhile—with help in no small part from the fact that the video games become more difficult as the players play better. But unless the video game companies begin investing more time and money into the development of new game ideas, pinball may once again rebound, forcing operators to swing in the other extreme and over-equip their routes with pinballs again.

The early indicators that video is marked for a downturn would come when the games are not met with as much unscrutinizing acceptance as they are enjoying right now. As with pinball, when large abnormal discounts are available for purchases of the games, it will be a signal that the video pipeline has been filled. That could happen next year or still further off in the future. That's the problem with *syndromes*; they stay around a bit longer, deceiving people that the condition will last forever. It won't.

What the video industry is experiencing right now is a lack of direction. There are no pioneers blazing paths for new ideas. There are no new inventions for the marketplace. Instead, they are all playing it pretty much close to the vest. But, as is evident from the similarity of each company's product to other companies' products, they could stand for an infusion of some new ideas.

Right now we are bracing ourselves for the third generation of *Space Invaders*-type games. How long can it go on?



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And what can video turn to? Again, what is needed is more imagination than what the video game companies have been showing recently.

Three-dimensional video effects—as were used successfully on the spaceship's monitor in the motion picture thriller, "Alien," is one area that video games companies have not shown any initiative in. Three-dimensional video displays are being used for industrial purposes, why not in games effects.

Of course, as long as two-dimensional games are still popular, no one expects the video games companies to come out with three-dimensional effects, but the various companies' research and development departments should start looking into this area.

The closest thing to three-dimensional play to date has been a strictly two-dimensional game from Atari called *Lunder Lander*. Although a two-dimensional game, *Lunder Lander* shows how a video screen can be changed to focus in on a specific part of the game area. This will be necessary in three-dimensional play on a two-dimensional video screen.

Another promising video development would be something along the lines of actual simulation. In video games today, players still have to imagine that the blips on the video screen are alien rocket ships or meteors or whatever. But the video screen is more attractive if it actually depicts real-life figures. The simulation of an airplane landing on a field strip, for instance, or a race car darting past other racers, or a battle station fighting a ground war against tanks and on-rushing soldiers, or a ball carrier dodging tacklers on a football field. These ideas would no doubt draw a lot of attention. The video game companies could easily manufacture simulation machines for the desired effects. Exidy's *Star Fire* module and Gremlin/Sega's *Monaco GP* lend themselves to simulation experiences.

And when can we expect to see holograms—those three-dimensional photographs? Disneyland has been using them for years in some of its amusement park rides. Couldn't holograms also be used successfully in the coin-op industry?

Conclusion

How does all this translate for the

operator? It's just this: The Hit Syndrome has created a volatile market, and operators should keep themselves more attuned to its quick-changing nature; or else, like the *Hollanders of 1634*, they may find themselves with an abundance of video tulips.

So the industry verities still do apply. Do not allow yourself to get over-extended in one type of equipment because, no matter how good everything is going today, one day that great earner will be a dog. That's the nature of this business.

Operators cannot afford to neglect the rest of their amusement equipment needs and pour everything they have into an all-consuming passion for videos. There is still a need for pinballs, pool tables, and phonographs out there. This is a business of cycles, of highs and lows, and so it's important that operators be prepared to swing from one to another.

Such final pronouncements as some operators are now uttering ("I'll never buy another pinball") do not take the cyclical nature of this business into account. Industry veterans know better. They remember King *Pong*.



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Questions of Reliability

By Doug McCallum

As another summer season draws to a close and we start to get ready for this year's AMOA show in Chicago, there are a few questions we technicians (and operators) should keep in mind while looking over all the shiny new stuff to buy. Are the pinballs as reliable as they were last year? How about the videos? Which works better?

My arcade generates some heavy play. The crowds are rough and the attendants are too, sometimes. So we see what holds up and what doesn't. In my view things continue to improve.

This season's new pins have gone through the whole summer with not a single memory dump, no fires in the solenoid circuits, no shorts in the high voltage circuitry, and no bad display tubes. In the past these problems have been all too familiar. The games have learned to talk without any particular service hassles. Maybe we could teach them to tell us when something is about to break down. Of course, there's the

one game I have across the street—it mysteriously blows the 43 volt fuse every week or so...I think they program that in just to keep me alert.

The biggest problem I have with the new pins is customers who can't read: "Hey, mister, I lost my quarter in there." "This one takes 50-cents, see?" "Oh, can I have my other quarter back then?"

So far I haven't seen too many changes in the mechanical areas, though at least one manufacturer, Williams, has redone its flipper units, complete with new coil, and they look real sturdy. What is changing is the level of sophistication in the electronics, especially in the audio circuits.

Remember the first sound units that went beep-beep-boop with as many parts? Nowadays there seems to be as much computing power down in the audio as in the rest of the game. The service literature that comes with the games shows an attempt to keep up with the changes.

I am particularly fond of Bally's repair book. It will lead even a relative novice through most circuit repairs in a step-by-step manner. The latest book covers everything new, but still has the procedures for the older units, a nice touch that saves you from keeping a shelf full of manuals. Sure do wish everybody else's book was as complete.

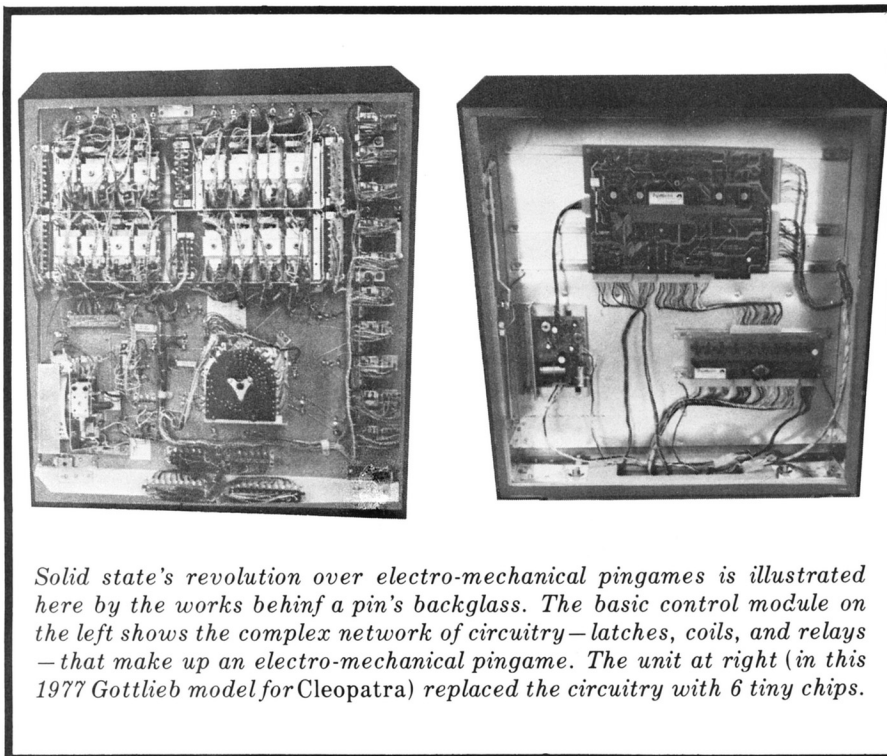
Videos—now, geez! Them darn things is wearing out my collectin' bag. Neat thing is, though, they don't break. The biggest problem I've had lately is the ole out-of-the-crate blues. One game I bought six of the spring came out of the boxes with only two working. It turns out that a certain batch of IC chips had an extra high failure rate; meanwhile I was sitting there with almost \$10,000 worth of equipment waiting for board swaps.

Electronic parts are getting harder to get as time marches on, and in particular the more esoteric stuff. Those of us who depend on a local Radio Shack for parts will find it increasingly difficult. One must hope that when the guys who make these games are cranking out thousands and thousands of them as fast as they can, they keep plugging away at quality control as well.

Servicability is a good portion of reliability in my book, and when parts I can't get are blowing up new, that cuts down on my games' servicability. But once they're up they stay up. Shucks, these days there's nothing to 'em but a few pushbuttons, a logic board, and an monitor.

This season's crop of games has emphasized skill (*Asteroids*, *Galaxians*) rather than Walter Mitty adventure, though my top earner is of the latter type (*Monaco GP*). The skill games offer less opportunity for abuse: no steering wheels for youngsters chip-ups, no shift levers to break, no joysticks to fall apart.

Trouble is, if one of these little gems goes down after all, you might have difficulty repairing it by the service literature, if you ever got any



Solid state's revolution over electro-mechanical pingames is illustrated here by the works behind a pin's backglass. The basic control module on the left shows the complex network of circuitry—latches, coils, and relays—that make up an electro-mechanical pingame. The unit at right (in this 1977 Gottlieb model for Cleopatra) replaced the circuitry with 6 tiny chips.

in the first place. What we have to fix this year that we didn't have last are color monitors and more vector type displays. Mostly you're on your own. One spaceship game I have came with harness drawings for a shifter and a gas pedal. Another game came with almost illegible schematics and Japanese notations—for a different board, yet.

My *Galaxians* manual has a nice procedure for converging the color monitor (adjusting the various images so the colors coincide) that should work with anyone's color set, though all the knobs might not be laid out the same. Otherwise, all I got was a schematic.

Atari did a fine job here, though. *Asteroids* provides us not only with a detailed circuit analysis in the schematic set, but also a well done book on the monitor complete with waveform pictures. (Gee, Johnny, *everything* you'd ever need to know...)

The shape of today

I guess the old days of two sizes of black and white monitors all with standardized input connectors are gone, sniff. Another disturbing trend is the use of PC card cages. You know, three or four little logic boards

all in a stack. The failures always seem to be on the middle board, and have you ever tried to work in there? It'd be different if the manufacturer would throw in an extender card, but I bet he won't. Even little problems become major when you don't have information or accessibility.

So which works better, pins or videos? Hard to say. Electronically both types work pretty darn well, all things considered.

The obvious mechanical differences deserve a moment's consideration. Naturally, the pinballs by their very nature will bang their little parts into smaller ones; steel balls will do that. But the real problem here is wear and tear and unskilled hands on the playfield. I hope they keep at it, up there at the factory, though, because I never had any pins get as much play as these new ones. They're as good as the old ones mechanically, but get twice the play and age twice as fast.

The videos are not exempt from mechanical failure—just give the customer something he can get a grip on and he'll break it soon enough. Actually, I've repaired more joystick handles this season than I have pop bumpers. So basically, I think one type of game is as reliable as the

other, except in one area, the area of service information. A game I can't repair for lack of information is just as down as one that needs a part.

The pins' producers provide a pretty good set of service procedures, and the overall similarity between the different manufacturers' products makes it relatively easy to troubleshoot them all in essentially the same manner. Video games are an entirely different story, they're all different. Several types of monitor are in use, each having its own way of receiving picture information, which also means that logic boards generate the images in as many different ways.

We need proper documentation of these systems if we are to be able to keep our games up and running. Until then, our only recourse is to call the toll free service numbers most of the makers have set up—which are very helpful, by the way.

Who knows, with all the computer capability in the games of today, next year they'll come out with a game that not only diagnoses its own problems, but repairs them as well...and then tells you about it when you come around to collect!



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Videos and Pinballs: Technical Comparisons

Video versus Pinball. The formula has become commonplace in the industry jargon, despite very few points of comparison between these

two types of equipment.

On a video game, the playfield is situated on a two-plane configuration. The characters do not necessarily resemble reality. The game is formulated such that the player has to extrapolate its imaginary theme. Playing video games requires not only keen reflex response, but also a certain degree of dexterity.

Since the interface between game and player is physically restricted to the operable controls, mechanical assemblies are few and often simple.

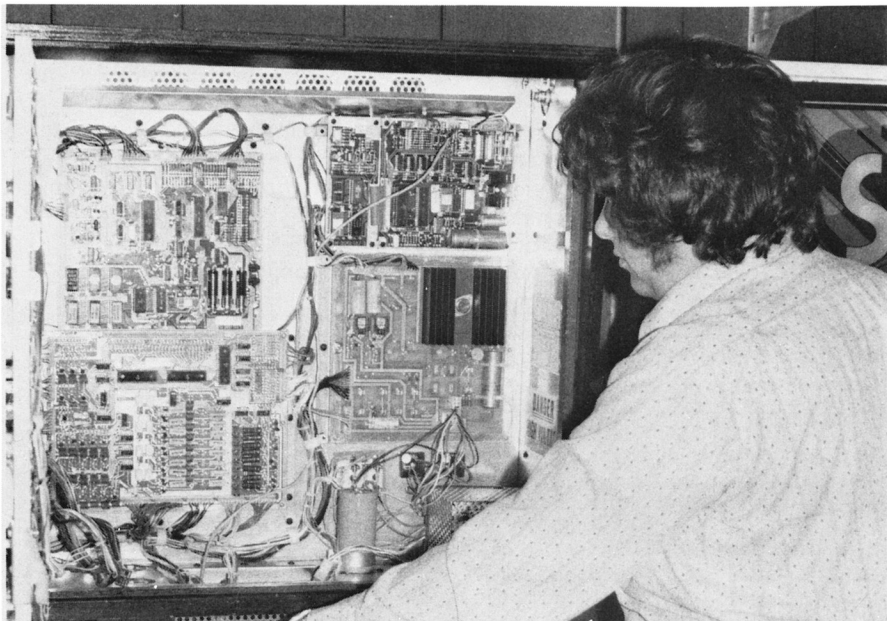
Pinball game playfields are tridimensional. There is no extrapolation required. The game play develops with shapes and movements that can be easily related to the common experience. The coordinated reflex response is based on few directives and player interface is simple and generally uniform (flipper units).

However, this tridimensionalism of the playfield requires a great number of components and assemblies that compose many of the mechanisms employed on every game. This mechanical—actually electro-mechanical—complexity has become a drawback for pinball games.

Since its introduction, the electronic pinball games have been through several revisions, both on its electronic and electro-mechanical hardware.

Before we discuss the validity and quality of such changes, some aspects of the manufacturing process must be taken into consideration.

Mechanical assemblies require the use of tool, machinery, and processes often expensive and not simple to reformulate. Production numbers often do not justify the creation of special tools, components, and assemblage. There is not sufficient field test time



The complexity of the pinball game—a large factor in its play appeal—is a drawback for servicing: Maintenance must be fine-tuned.

allowed to guarantee the success of a particular modification or unit before the game goes into production.

Although the points above mentioned are valid from the manufacturers point of view, they are only part of a more complex picture. Players' and operators' demand for new games, associated with a fierce competition, generates the creation of new models almost every month.

This constant output becomes detrimental to product reliability.

In everyday operation, the electro-mechanical units (especially its mechanics) are those with the highest failure rate. Pinball playfield mechanics will fail because of the destructive action of the steel ball, poor quality material, design, workmanship, and maintenance.

Video games' mechanical interfaces will fail basically for the same reasons, except that instead of a steel ball, we may find an angry player on the controls.

Mechanics are definitively the weak point on video games. From the manufacturing point of view, it is easy to understand why such weakness occurs. Most video manufacturers depend on external sources for mechanical or electro-mechanical

units.

However, the video's mechanical simplicity, when compared to the pinball mechanical complexity, moves the reliability balance to the pinball side.

On electronics, pinball again is in an apparent disadvantage. Its discrete componentry, in much larger numbers than integrated components, elevates the rate of failure. However, its modular construction balances the handicap.

There are two basic electronic units on a video game: the game board and the TV monitor. This compactness may simplify basic troubleshooting diagnostic and field repair, but it becomes significantly more expensive when compared to the pinball repair.

The electronic modules on pinball are easier to repair in the field, and documentation is by far more available than in video games. All pinball manufacturers supply a reasonable amount of printed information.

In video, Atari leads in technical publications. Although there's not a major service manual for Atari video games as there is on pinballs, the Sunnyvale company takes a serious approach to documentation in each of its games. Unfortunately, this is not

so with the remainder of the video industry. However, some manufacturers of video games are realizing the link between marketing sales and product reliability, and better documentation is coming out from Midway, Gremlin, Exidy, and others—as excellent information comes from Williams, for example.

Reliability is the final product from a combination of manufacturing aspects: proper design, quality control, and service back-up. On the other hand, proper maintenance by operators will determine product reliability. Without it, no quality standards will prevent equipment failure.

There are too many more components subject to failure on a pinball, compared to a video game. Nevertheless, the disparity in the numbers is the reason why there is a proportionate failure rate. Pinballs are as reliable as video games. Proportionally!

Before the industry reaches standards that will make its products more reliable, many aspects of the general picture will have to be reformulated. It is the responsibility of all groups in the coin-operated amusement industry to jointly determine the quality of its products.



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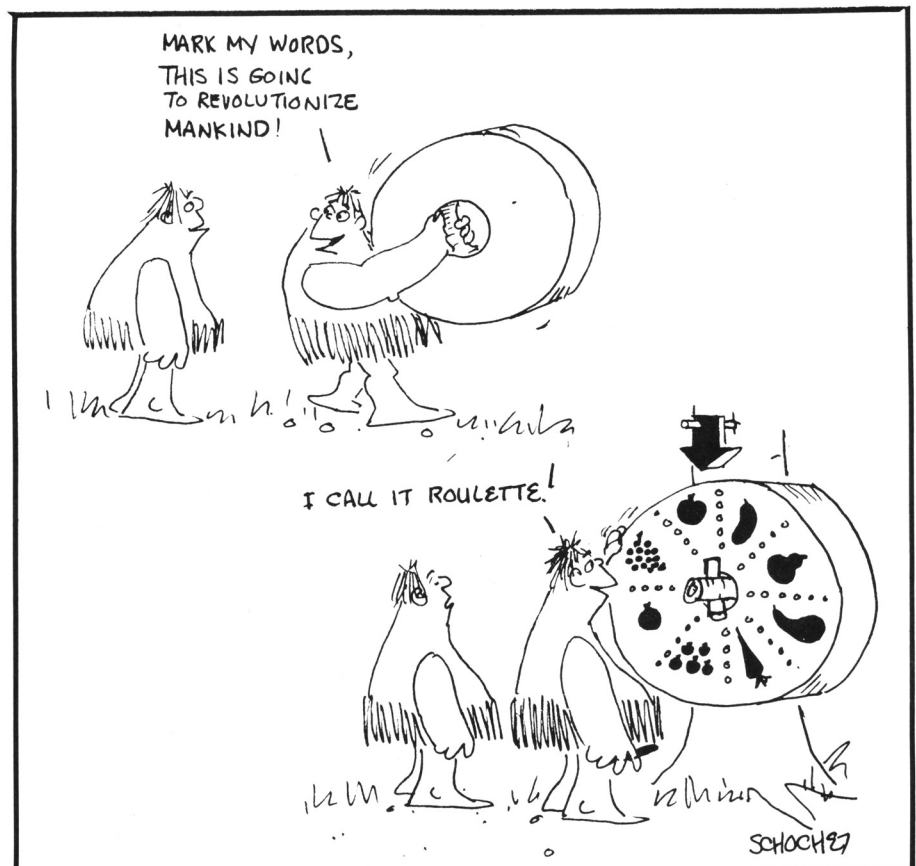
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\$200 million world market

THE GAMING INDUSTRY

compiled by

World Gaming Report

How big is the worldwide market for coin-operated gaming devices? "A semi-educated guess" was offered by World Gaming Report of Las Vegas, which noted recently that no figure on total sales by this segment of the coin-op industry has ever been published—because most of the approximately 80 manufacturers of such devices are private companies.

However, several of the larger companies that dominate the industry are public, and sales figures are available. These, along with statistics from various regulatory agencies, lead to a knowledgeable estimate that the worldwide market for all categories of coin-operated gaming devices is \$200 million. This would be for new machines only, and would include the value of equipment placed on lease by manufacturers. It would not include the sizeable market for used equipment. (The \$200 million figure should be borne in mind as an estimate, not an industry statistic.)

As a result of the anticipated legalization of such machines in new areas, industry sales are expected to more than double in the next five years, in the estimate of World Gaming Report.

Basically, coin-operated gaming devices can be divided into four categories:

Slot Machines—This is the basic equipment of the gaming industry, the traditional "One-Armed Bandit" (a nickname that the industry does not much like), also known in international markets as "casino style" machines. We often hear other gaming machines, such as blackjack or draw poker machines, referred to as "slot machines." By one view, this is incorrect. The slot machine probably accounts for about 40 percent of gaming sales. The three largest markets for slot machines are Australia, England, and the United States.

Amusement-with-prizes machines—AWP, or "fruit" machines are essentially the British version of the American slot machine. The machine is activated by the coin mechanism or by pressing a button, rather than by the pull of a handle. The principal market for AWP machines is in the United Kingdom.

German gaming machines—German law does not permit the sale of slot machines in Germany, except in a few casino locations. Like the AWP machines, German gaming machines, also known as "wall" machines, do not employ the traditional slot machine handle. Play is activated by depositing a coin or token. A unique feature of German law prohibits the use of these gaming machines for more than three years.

Specialty machines—This term is used for want of a better one: something of a catch-all category, which includes a wide range of machines—blackjack, draw poker, keno, dice, and many others. Also included here are certain "soft" gaming machines such as *Penny Falls* and the in-line pinball. Specialty machines represent one of the fastest growing segments of the industry.



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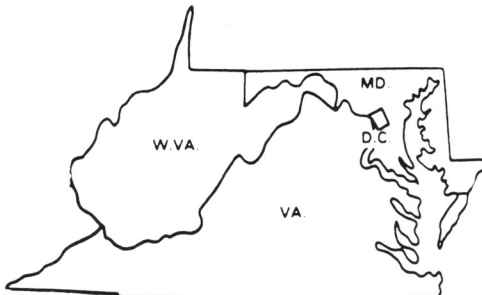
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Gaming machine producers

As mentioned earlier, there are about 80 manufacturers of coin-operated gaming devices that are known, but the list seems to be growing almost daily. The following is a capsule report on some of the producers, including industry leaders, which account for more than 90 percent of the market.

Bally Manufacturing Corporation, 2640 W. Belmont Avenue, Chicago 60618. Bally is the world's largest manufacturer of coin-operated gaming devices. The company holds a commanding lead in slot machine sales, with about 80 percent of the U.S. market, and probably no less than 60 percent of international sales.

Through its German subsidiary, Gunter-Wulff-Apparatebau GmbH, Bally is also the leading manufacturer of German gaming machines. Bally is the only American manufacturer of in-line "bingo" pinball machines. Such machines are classified as gaming devices in most of the United States and may be sold legally only in Nevada, South Carolina, and Tennessee. Bally manufactures slot machines in the U.S. and in Ireland. Sales offices are maintained throughout the world.

Bell-Fruit Manufacturing Co., Ltd. 263 Putney Bridge Road, London SW15, England. The Bell-Fruit Group is a unit of the large British industrial group, Cope Allman International Limited. The company is the second largest manufacturer of coin-operated gaming devices and the leading manufacturer of AWP units.

Bell-Fruit is establishing sales and service facilities in the United States in an effort to obtain a share of the Nevada and Atlantic City markets.

Ainsworth Distributors 108 Dunning Avenue, P.O. Box 155, Rosebury, NSW 2018, Australia. The company is a unit of Ainsworth Consolidated Industries, located at the same address.

Ainsworth is believed to be the third largest manufacturer of coin-operated gaming devices, but is probably the second largest maker of slot machines. It is the largest manufacturer and distributor of slots in Australia. The company recently entered the American market with its *Aristocrat* slot machine, a micro-processor based machine, which Ainsworth has been making for about two years. An American subsidiary, *Aristocrat Inc.*, has been established at 4150 Freeport Boulevard, Sparks, Nevada 89431.

Sircoma 520 S. Rock Boulevard, Reno, Nevada 89502. Since its acquisition of *Fortune Coin Co.*, Sircoma has become the world leader in the manufacture of specialty machines (*21*, *Draw Poker*, *Keno*, etc.).

The company has also introduced a new line of electronic video slot machines which may be found in several casinos in Nevada, and which were recently approved by New Jersey's Casino Control Commission.

Since Sircoma is a private company (although it is reported to be ready soon to go public), sales figures are not available—but it may rank as the fourth largest manufacturer of gaming devices.

OTX, Incorporated 5 Walnut Street, Elgin, Illinois 60120. OTX is the manufacturer of the Jennings and Mills slot machines. The company holds the distinction of being the oldest slot machine manufacturer in the U.S.

Game Plan, Inc. 1515 W. Fullerton Avenue, Addison, Illinois 60101. Game Plan, a subsidiary of publicly-traded AES Technology Systems, Inc., is a relative newcomer as a slot machine manufacturer, but is one of the more aggressive of several young companies in the industry.

The company manufactures a line of electronic slot machines as well as a recently introduced line of microprocessor-based slots. Through its Nevada subsidiary, Game Plan was licensed earlier in 1980 as a manufacturer and distributor of slot machines in the

state of Nevada. Its machines are now in use in several Las Vegas casinos. Lee Goldboss is president of Game Plan, Inc.

Gaming Devices, Inc. 5945 N. Rogers, Chicago 60646. This is the slot machine manufacturing arm of XCOR International, Inc. The company has placed a number of its Seeburg slot machines at Resorts International in Atlantic City and has about 600 machines going into the new Jockey Club Casino in Las Vegas, which is scheduled to open later in the year. Reports are that the company is actively pursuing sales in foreign markets. John Nicaastro is general manager of Gaming Devices, Inc.

Alstate Coin Machine Company 700 Sunset Road, Henderson, Nevada 89015. This is a company that has shown a remarkable ability to survive the test of time in an industry that has had more than its share of troubles over the years. Alstate has been around for about 70 years. The company is probably the largest Nevada-based slot manufacturer. Alstate specializes in a line of compact slot machines, of simple design, as well as custom giant *Jet Bell Space* machines.

Gamex Industries, Inc. P.O. Box 156, Hudson, New Hampshire 03051. Gamex is a spin-off from the Centronics Data Computer Corporation, which introduced its line of electronic slot machines about three years ago. The company suffered a marketing setback earlier this year when voters in Maine voted against the legalization of slot machines.

Gamex has placed a number of machines without coin mechanisms in that state through a loophole in the state's gaming statutes. The Gamex slot, which is a microprocessor machine, has been approved in New Jersey. Harry Kane is president of Games.

Ace Coin Equipment Ltd., Ace House, Lanelay Road, Talbot Green, Mid-Glamorgan, South Wales, U.K. Ace is one of Britain's leading manufacturers of coin-operated gaming devices. Products include AWP machines and slot machines.

Alca Electronics Ltd., Alca House, Goddard Street, Oldham, Lancashire OL8 1LQ, England: manufacturer and operator of AWP machines.

Bonanza Enterprises, Ltd., Port P.O. Box 111, Yokohama, Japan. Manufacturers video poker games as well as a coin-operated dice game. Bonanza is one of the largest distributors of coin-operated amusement and gaming devices in the Far East.

John W. Caler Company, 7506 Clybourn Avenue, Sun Valley, California 91352. Manufacturers of customized, full-figure (cigar store Indian, robot, etc.) slot machines and token vendors.

Alfred Crompton Ltd., Wilton Road, Hain, Ramsgate, Ken, England. Crompton is believed to be the largest manufacturer of penny fall machines (coin pushers). These devices are sold for both gaming and amusement-only purposes. Crompton machines are distributed in the United States by Universe Affiliated International, Inc., 314 W. First Avenue, Roselle, New Jersey 07203.

Associated Leisure Limited, Phonographic House, The Vale, London NW11, England. This fast-growing company manufacturers, distributes, and operates coin-operated gaming devices in the United Kingdom. Associated Leisure has been expected to enter the American market, possibly through the acquisition of an American company, but at mid-year it had not made a move to do this. N. Solomon is managing director of Associated Leisure.

Summit Systems, Inc., 1520 Linda Way, Sparks, Nevada 89431. Summit is a subsidiary of Interscience Systems, Inc., Van Nuys, California, but plans to go public through a rights offering to Interscience shareholders. The company has developed and is marketing a slot machine conversion package. This converts electro-mechanical slot machines into micro-

processor controlled slots. The conversion package has been approved by the Nevada Gaming Commission.

The company also intends to manufacture its own line of microprocessor slots, and has entered into a joint venture agreement with Elsinore Corporation for this purpose. James W. Halverson is president of Summit and of Interscience.

Casino Electronics, Inc., 3212 Wynn Road, Las Vegas, Nevada 89102. This young company, headed by Colin Foster, has all the appearances of a fast-mover in the specialty machine field. The company manufactures a blackjack machine which has been well received in Las Vegas. Casino Electronics was expected to be expanding into other product lines.

Game-A-Tron Corporation, 931 West Main Street, New Britain, Connecticut 06050. Game-A-Tron, which recently became a publicly-traded company, manufactures three coin-operated specialty machines—draw poker, 5-card stud poker, and blackjack.

Harwyn Industries Corporation, 227 East 44th Street, New York 10017. Harwyn is not a manufacturer of coin-operated gaming devices, but it is the exclusive distributor (everywhere except Western Europe) of games made by Summit Coin Limited of Bridgend, Wales. Summit manufactures a microprocessor-based slot machine, blackjack, and poker machine.

Intermark Industries, Inc., 8625 North 19th Avenue, Phoenix, Arizona 85021. Intermark manufactures microprocessor-based video games based upon card games such as draw poker. Presently, they are sold for amusement-only purposes, but the company is expected to introduce cash-payment versions soon.

Loewen Automaten GmbH & Company KG., Im Tiergarten 20-30, 6530 Bingen, West Germany. Loewen manufactures a German gaming machine which it markets under the name of "*Roto-Mint*." The company is the second largest manufacturer of "wall" machines.

Meyco Games, Inc., 650 Vaqueros Avenue, Unit D, Sunnyvale, California 94086. Meyco manufactures a number of coin-operated video games—*Casino Blackjack*, *Joker's Wild*, *Wild Arrow*, *Super Stud*, *Montana Draw*—which are now marketed for amusement-only purposes. The company does, however, plan to offer cash payment versions in the near future.

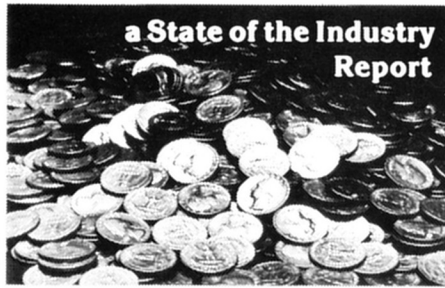
Amstar Electronics, 1960 West North Lake, Phoenix, Arizona 85021. Manufacturer of specialty gaming devices—*Poker*, *21*, *Hi-Lo*, *Jackpot*. The company presently markets these games in amusement-only versions in the United States. Cash payment models are sold in export markets.

Playmatic S.A., C/Tucuman 26-28, Barcelona, Spain. Manufacturer of bingo pinball machines.

United Coin Machine Company, 2620 South Highland Drive, Las Vegas 89109. A subsidiary of Advanced Patent Technology, Inc., Inc., it is believed to be the largest slot machine route operator in Nevada. The company also manufactures a variety of specialty machines—poker, blackjack, dice, keno, and big six.

Universal Company Ltd., 1-12-3 Nihonbashi, Hori-dome-Cho, Tokyo, Japan. This company is reportedly a newcomer to the slot machine business, although it has considerable experience in the manufacturing of coin-operated amusement machines. The company has developed a microprocessor-based slot machine which will be distributed in the United States by Ferncrest Distributors, 66 Illinois Avenue, Warwick, Rhode Island 02888.

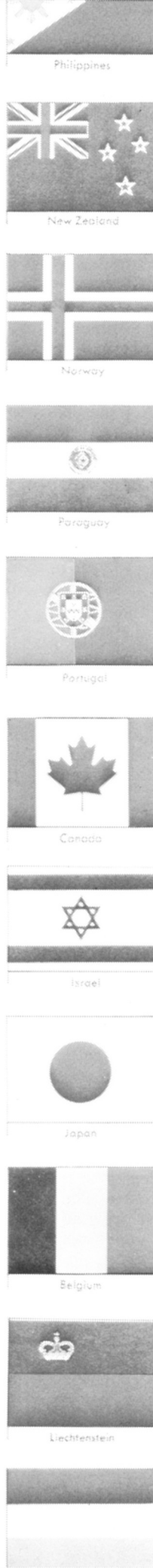
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By David Snook

special to PLAY METER

The International Scene: Coin-Operated Leisure



Video, video, video. The coin-operated goggle-box has taken over the world, with a stultifying effect on most other types of game. Even in the countries where slots are permitted, the video game has had or is having an effect on takes from the coin box—a phenomenon no one even in the trade would have suspected at one time.

From Cape Town to Khartoum, from Helsinki to Adelaide, the fascination with the glowing screen reigns supreme. The video has opened locations where coin machines were taboo, has proven a god-send to markets hitherto stagnating for want of novelties and, above all, provided a bonanza for operating routes around the world.

Opening up new sites notwithstanding, a great deal of Joe Soap's money-for-playing-machines is being diverted away from other traditional games. From all sectors come worrying signals from manufacturers of pool tables, slot machines, pinball games, and phonographs that their products are suffering as a result.

Note, for example, two recent instances of top U.S. pinball manufacturers moving into the production of the video game. One could reasonably point to history: to suggest that those manufacturers of other types of equipment who have not, so far, delved into the video market would be wise to do so while the going's good.

All of us over 20 years old will remember that we cut our coin teeth on pinball. It is not unreasonable to suggest, therefore, that pinball has had 25 excellent years of promotion and prosperity, resulting at the moment in probably the finest range of pinball games ever seen on world markets.

By the same token, no one will now suggest that the video game is going to do anything else but become a standard itself.

Could one say, therefore, that it too will have 25 good years? Where will that leave the pinball game? After all, they are very similar pieces of equipment in terms of operating practice.

No one, not the least myself, will attempt to suggest or predict the end of the pinball game—but at least it is fair to throw some doubt on its future, perhaps to the extent of suggesting that it may well find itself running a very poor second to video in time to come.

Who knows, for example, what the relative performances of the two pieces of equipment are in the American Manufacturing business during 1980? The statistics probably don't exist, but if you take the combined total output of pinball and video on the U.S. market so far in 1980 as 100 percent—what proportions would each type of equipment hold?

Sticking one's neck out is often unhealthy, but necessary if a journalist is not to be accused of timidity. I'd put the percentage in favor of video by 60 to 40 as a guesstimate.

In terms of world markets, video dominates and is still showing growth. It is proving more versatile than the pinball, with upright, cocktail table, lowboy, and compact cabinets—whereas pinball, by the very nature of the animal has shown no

cabinet evolution for donkey's years. Add to that the fact that in so many countries the growth of pinball has been stifled for a number of reasons, possibly chiefly through its black-sheep brother the bingo table, and the infinitely more socially acceptable face of the video game gives it still greater advantage.

U.S. Position

And what of American involvement in world markets? The manufacturing trade, of course, still dominates. Whether it is pinball, phonograph, or miscellaneous games—save video—it retains a stranglehold on international trade by producing the best quality products with the best ideas.

That poll position, however, is not inviolable. In jukeboxes there is healthy competition from the Germans. In video the Japanese probably have the edge. In pinball the Spanish and Italian threat is probably polarizing into a couple of really professional companies with some sabre-rattling from Australia.

What really amazes me, as a foreigner, about the American trade, is the apparent total lack of interest by the average American operator in what is happening in the rest of the world.

We Europeans have known for many years of course, that if you open a regional or local newspaper in the United States, there is little or nothing in it about what is happening in other parts of the world. This insular character of Americans has always been there, but it does tend to spill over into the coin machine trade as well.

If it were not for hardy jet-setting souls like Joe Robbins, Ira Bettelman, Arnold Kaminkow, Shane Breaks (who is British anyway), and Suzanne Elliott, to name but a few, the American trade generally would know very little of what goes on in the world.

That is fine when the U.S. industry leads the world. But that hold is no longer total, as we have seen from Japanese exploits in the field of video games.

At last year's Japanese exhibition in Tokyo in October, for example, the number of American visitors could be counted on the fingers of two hands. Yet there were 75 British, 20 Germans, the same number of Spaniards and Italians, and many other countries were more impressively represented.

My own publication, *Coin Slot*, for example is planning to take a party of 150 British, Spaniard, German, and Belgian people over to the Japanese show on October 8, 9, and 10 and the party will be predominantly operators! Where have all the American operators gone? Maybe the time has come for them to shake off the parochialisms of Peoria and get out into the world to see what the other guy's got, because the other guy's starting to get things that the Americans haven't got.

For all that, the world will be at the AMOA this year, anxious to see what the U.S.A. can come up with. Your nation is still the main source of new equipment for the world—but the point I am making is that other shows in other countries will have new

products too, products that other operators will get first because not every unit originates in the U.S.A. anymore.

The international jet-setting of the trade in the rest of the world is having a profound effect on other markets. The Western Europeans, for example, are booming with cocktail table games at a hitherto unprecedented rate, while the Japanese are overcoming the hangover they experienced following *Space Invaders* videos.

The sheer power of the Taito game was such that a massive rip-off manufacturing market exploded virtually overnight in Japan. And with the speed of the Japanese fashion at its height, they were the first to feel the effects when there was nothing to immediately replace it. Some disorder in the Japanese trade followed inevitably from the over-exposure of one game—and some smaller companies disappeared as quickly as they had originally come onto the scene.

Accusations of dumping inferior products on other countries resulted, again almost inevitably, but the Japanese industry has now settled down into the four or five household names that can be relied upon. The effect of *Space Invaders* in Japan was probably the same as the 1973 situation in Europe following *Pong*: over-exposure of one game followed by a lag which only the fittest were to survive.

Now in Japan the situation is more stable and there are even hints that the video game is settling down to the extent that more room is being found for other games. Where pachinko parlors were replaced by video parlors, now some are going over to slots operated with tokens and merchandise prizes.

Taiwan is moving into the video market quite strongly—as yet with little origination—but nevertheless providing the possibility of competition in the near future.

South America remains a good video and pinball market, supplied almost exclusively by North America.

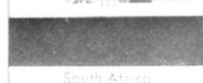
Africa also remains a stable market, which means little trade with most countries there except in used equipment because currencies are so brittle. South Africa is the exception, where there is a lively market in video and a pinball market that rather limps because of woolly legislation and lengthy court actions by pinball operators to try to establish their legality there.

In the U.S.S.R?

The Iron Curtain countries remain the great enigma: oceans of potential but ponderous authoritarian procedures which limit the growth of games to the resort areas popular with Western tourists—which are supplied by a mixture of Italian, Austrian, and Scandinavian companies with contacts in eastern Europe.

To sum up, therefore, the world is still riding the video wave, often at the expense of other forms of equipment. But to be fair, the TV screen is opening up a reasonable amount of new markets by itself as the world gathers more and more leisure time.

The future still looks bright in certain sectors—but is positively glowing when viewed through video monitors. •



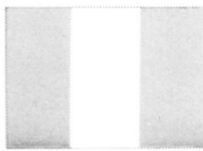
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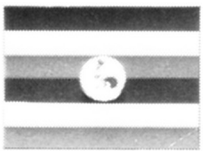
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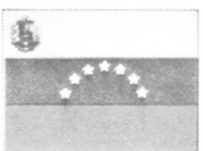
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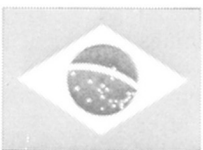
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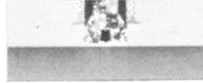
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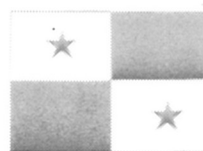
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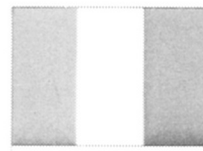
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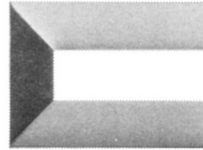
United Kingdom



Italy



Australia



Kuwait



Liberia



Peru



Bulletin: Court test on location lists

Feds to get tough on unlicensed jukeboxes

By RAY E. TILLEY

Computers and G-men may be teamed to track the jukebox operator who next year neglects or ignores the compulsory licensing of his jukebox with the U.S. Copyright Office.

If not the stuff of "1984" and Big Brother, the means at the disposal of the federal government under the 1978 Copyright Act will nevertheless include the U.S. Justice Department and electronic tracking.

At the Copyright Office by mid-September, a total of 132,266 certifications for coin-operated phonographs had been issued, said Walter D. Sampson, Jr., chief of the licensing division. Collections totaled \$1,061,719.

The certifications in 1980 compared to about 136,000 in 1979, but Sampson said the rate of increase at the end of August over one year ago was about one percent. That jump was probably due to a canvass of the 10 largest U.S. cities for locally licensed operators—those who might or might not operate jukeboxes, the division chief explained. "Lengthy listings" were obtained through this cooperation by the cities' licensing departments.

The Copyright Office—which has no enforcement power of its own but acts as an information-providing agency through the licensing division—sent "a little flyer about the law, and an application" to the addresses on that listing, said Sampson. He noted that it is "difficult to identify jukebox operators," and that his small staff attempts to contact as many unregistered phonograph operators as possible.

In 1981, a computer will be used by the licensing division at the end of March to pair operators licensed in 1980 with those licensed in 1981, to produce a printout of possibly non-licensed machines in operation.

Sampson told PLAY METER that

follow-up mailings to operators licensed in 1979 produced some responses of "out of business." Asked if a respondent were in jeopardy of perjury if he gave a false response in this matter, Sampson replied, "That is a ticklish legal question..."

Action came on two fronts in the jukebox operators stand against copyright royalties during September. The U.S. Court of Appeals in Washington denied the AMOA's challenge of operator location lists for the Copyright Royalty Tribunal.

The AMOA was prepared to challenge the denial to the U.S. Supreme Court, said counsel Nicholas Allen. A writ of certiorari was being prepared at this magazine's presstime. That motion requests the Supreme Court to hear the case.

Before the CRT, meanwhile, final submission of arguments by all parties, including the performing rights societies, was completed on September 16. A decision on per-jukebox fees to be applied during the next ten years was expected to be issued by the Tribunal by December.

Any appeal of the per-jukebox fee would be made to the court of Appeals.

He ventured that only a third of the estimated 400,000 to 500,000 jukeboxes are licensed as required by the copyright law

[In comparison to these figures of boxes assumed to be in operation, the current Play Meter Annual Subscriber Poll shows slightly over 320,000 phonographs in operation today in the United States.]

A box in operation on January 1 of 1980 is required to be licensed by

that date. In practice, however, one month's grace is provided for registration.

Action against non-licensed machines is presently a matter for performing rights societies to take in court, on behalf of copyright owners. "The (copyright) law was really set up for civil action to be taken," said Sampson.

A measure of enforcement rests in Washington, however, beyond the Copyright Office's doors.

Copyright infringement as defined in the 1978 law is a federal offense. It provides protection for the copyright owner, but technically the U.S. Justice Department can prosecute alleged violations, Sampson confirmed. "That has not taken place yet, but they (Justice Department officials) have inquired about it," he said.

The per-jukebox fee has been opposed by many operators and their associations. Compliance with the law goes along at a reduced pace, nevertheless. Fewer jukeboxes were licensed by the Copyright Office in 1979 (136,000) than in 1978 (144,368). Sampson said requests for compulsory licensing materials are received "almost daily."

The chief of licensing said he cannot determine whether the late-year contacts with his office are related to new machines in operation or late decisions to comply with the law. "I feel there are many machines that are not licensed," he said.

The funds taken in by the license division are invested, and after the operating expenses of the division are deducted, the remainder is turned over to the Copyright Royalty Tribunal to distribute to the performing rights societies.

A long-drawn-out hearings process by the Tribunal has continued through the summer to determine the rate of per-jukebox license fees to be imposed over the coming 10 years.

AMOA sets *Exposition '80* program & speakers



Robert M. Bleiberg

Keynote speaker at the AMOA Exposition Seminar will be Robert M. Bleiberg, editor of *Barron's National Business and Financial Weekly* for more than 25 years, whose address is titled "Economically Speaking."

The All-Industry Seminar runs from 9-12 Friday morning, October

31, opening day of the Exposition in the International Ballroom of the Conrad Hilton Hotel, Chicago.

Bleiberg has addressed numerous business groups and college audiences, as well as appearing on television public-affairs programs as an authority. He is listed in *Who's Who in America* and is a member of the New York Security Analysts, New York Financial Writers Association, Phi Beta Kappa Associates, and the Economic Club of New York, and he is a resident of that city.

Under his editorial direction, *Barron's* has won a number of awards for its reporting, and Bleiberg's weekly editorials have been influential in business and political circles.

The Expo Schedule:

Those wishing to attend AMOA's Second Annual Conference of State Associations are urged to arrive by Thursday noon, October 30 at the Hilton. The conference will be held 3-5 p.m. that day, with past president Russell Mawdsley as the moderator.

Industry-related organizations are invited to meet in the Conrad Hilton

on October 30. Requests for meeting space should be made to AMOA Executive Director Fred Granger as soon as possible.

Set times for sign-in and activities: Thursday, October 30: Registration desk open, 9 a.m. - 5 p.m.; Friday, October 31: Registration desk open, 8:30 a.m. - 5:50 p.m. and Expo open, 12 noon - 6 p.m.; Ladies Lunch and program, 12:30 p.m. - 2 p.m.; Exhibitor hospitality suites open in the evenings, Friday and Saturday.

Saturday, November 1: Registration desk and Expo open 10 a.m. - 6 p.m.; AMOA Brunch and business meeting, 11:30 a.m. - 1 p.m.; Sunday, November 2: Expo open 10 a.m. - 4 p.m.; cocktail hour 6 p.m.; gala banquet and show, 7 p.m. - midnight.

The AMOA advised making early reservations of rooms at the Hilton. The AMOA does not make room reservations.

Mini-seminars will again be presented on Saturday morning from 8:30 to 10 a.m., and Sunday from 8:30 to 10 a.m.

Exhibit space for the 1980 Expo was reportedly sold out after mid-June. •

Handicapped 'star' in film for AMOA

"Robbie," a 30-minute documentary film about a young man who found hope to overcome his quadriplegic condition through a development his brother made in pinball technology, will be shown at the AMOA Exposition in Chicago, October 31.

Richard S. Greenberg of New York City produced and directed the film, which will be shown during the AMOA's Friday morning Industry Seminar. It is the story of the young man, Robbie Marince, left quadriplegic from an automobile accident injury, how his family coped with his handicap, and how his brother Gary made the "sip and puff" development to allow handicapped persons enjoy a pinball game.

The story of the brothers Marince and the annual pinball tournaments they made possible for paraplegics appeared in *PLAY METER*, September, 1980.

Independent filmmaker Greenberg

said the documentary emphasizes Robbie's triumph over his handicap, with hope for the future. "The pinball technology developed has given him and other kids a chance to do something they haven't before," said Greenberg.

The film "Robbie" will be shown on public broadcasting television stations this fall, said Greenberg. It will also be entered in several film festivals in connection with the United Nations declaration of 1981 as the Year of the Disabled Person. The film culminates in the Harmarville Rehabilitation Center tournament in Pittsburgh, described in the September *PLAY METER* article.

A publicity packet on the film, which may be utilized by charitable groups for handicapped awareness, is available by contacting Richard S. Greenberg at 12 West 90th Street, Number D, New York City, NY 19809.



Robbie Marince

NAMA gathering in Kansas City

The 1980 National Automatic Merchandising Association convention/exhibition will be held in the spacious Kansas City Convention Center—again without amusement games exhibitors this year.

A total of 201 exhibitors, including some 35 first-timers, will set a new record when the National Convention Exhibit of Vending and Foodservice Management opens in Kansas City on October 23, said NAMA president G. Richard Schreiber.

The 1979 NAMA Show reached the previous high with 193 exhibitors and new participation records were set each year since 1976 when the number of exhibitors totaled 170 companies, according to Jack Rielley, NAMA director of sales and exhibit manager.

Rielley said total net exhibit space at the Kansas City Convention Center will exceed 56,000 square feet, compared with 54,000 last year in Chicago.

Of the absence of amusement games exhibits, he explained that this industry inclusion in the NAMA Show of 1977 was "a one-time special thing." He added, "The AMOA have their own association and show."

A number of manufacturers are expected to exhibit equipment featuring microprocessors and information retrieval systems. Rielley said six exhibitors will display route service and catering trucks and the show will include at least two exhibitors from overseas.

Highlights of the business meet-

ings include a debate on "Election '80" moderated by Paul Duke, who conducts Public Television's "Week in Review" program, with William Rusher of the National Review and former U.S. Senator Dick Clark (D—Iowa).

Other convention sessions on the mornings of October 23 through 26 will feature management of the selling function, initial reports on NAMA's industrywide research study, an expert on handling management stress, a discussion on the role of frozen foods in vending sales, using effective merchandising in the sale of prepared foods, and how to screen out security risks in hiring practices.

All business meetings will be held at the Kansas City Convention Center, according to G.H. Tansey, NAMA director of conventions and education. Social events include a special program for ladies and spouses each day, a reception sponsored by manufacturers on October 24 and the annual NAMA banquet on Saturday at the Crown Centre Hotel.

NAMA member firms register free of charge and the fees for non-members are \$25 per person for personnel of operating companies and \$75 for non-member manufacturers for the first individual and \$50 for each additional person from the same company.

Requests for registration and other information should be addressed to NAMA, 7 South Dearborn Street, Chicago, Illinois 60603.

OMAA Service Schools slated

The Ohio Music and Amusement Association has announced another in a series of "mini service schools" for Oct. 10-11 and Oct. 31—Nov. 1. Each program is limited to a maximum of fifteen students and will follow a strict basic format.

Digital Electronics I school will be held at the University of Dayton's Kennedy Union, 300 College Park Avenue, Dayton, Ohio.

Digital Electronics II will be held at the Carrousel Inn, 4900 Sinclair Road, Columbus.

Registration for the school was advised as soon as possible. OMAA members have priority. To register, contact: OMAA, 41 S. High Street, Columbus 43215.

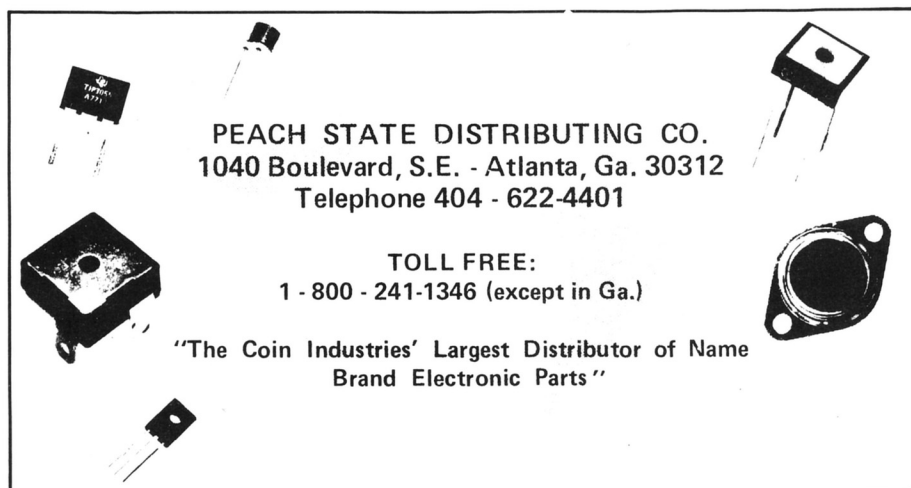
Digital Electronics I is a two-day program presenting the basics of digital electronics. Areas to be covered are: 1-gate, or-gate, nand-gates, nor-gates, and switching gates. The operation of the digital logic probe, as a troubleshooting aid, also will be discussed. Jim Sneed of Kurz-Kasch will be the instructor for this basic course.

Digital Electronics II is a two-day program that is an extension of Digital I. Areas to be covered: flip-flops, registers, counters, timers, memory, and the microprocessor. The course material will be applied to present-day equipment. Jim Martineau of Shaffer Distributing will instruct the course.

Registrants will attend class from 9:30 a.m. to 5:30 p.m. each of the two days. A lunch hour and "breaks" will be scheduled. All students should bring a meter and logic probe, a large notebook, pen or pencil—and a desire to learn.

Upon completion of the course, each successful graduate will receive a certificate from the OMAA.

Registration fee is \$40 per person for course I and includes luncheon; \$30 for course II, with each person responsible for his own meals. Lodging and transportation is the responsibility of each registrant. Rooms have been set aside at the La Quinta Motor Inn, Dayton, and the Carrousel Inn, Columbus. Direct contact with the motel/hotel is necessary, but the attendee should say that he is with the OMAA service school.



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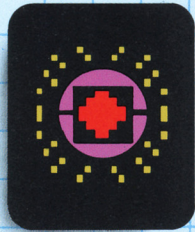
**LAUNCH INTO ADVENTURE
THAT'S OUT OF THIS WORLD!**

FLIGHT PLAN: MOON CRESTA

Mission: Dock Lunar Rockets I, II, and III for MULTI-FIRE power. Mission terminates when all rockets are destroyed.

Rocket Capabilities:

Stage I: Single firing laser with high mobility.
Stage II: Double firing lasers with moderate mobility.
Stage III: Double firing lasers.



ZUPUS
50 Pts.



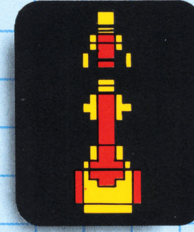
HELICON
30 Pts.



MERCATOR
60 Pts.



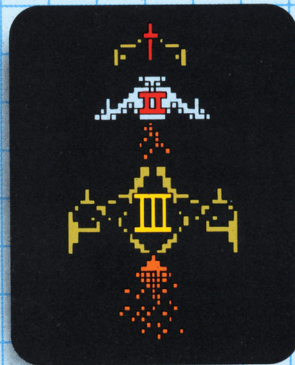
TAURIDS
200 Pts.



TITAN
100 Pts.

Plan of Attack:

Rocket I must destroy regiments of the Zupus and Helicon craft to reach first docking station. Docking bonus points are scored as the docking ship is linked with the Mother Craft in the shortest possible time. Pilot maneuvers rockets using port-starboard directional controls. Descent can be slowed by firing retro-rocket control. Docking must be completed within 30 seconds! The highest bonus is achieved by docking in the shortest time. Failure to dock results in the loss of all bonus points. A crash during this phase destroys the docking rocket. When docking sequence is completed successfully, Rockets I and II join forces for triple firing power to combat the Mercator craft. As the last of the Mercator vessels are eliminated, RED ALERT! Be prepared for a cross-fire of Taurids meteor showers! Pilot must command Rockets I and II



Docking Sequence

through meteors before attempting link-up with Rocket III at second docking station. As Rockets I and II dock with Rocket III, firing capability is combined for MULTI-FIRE power!

The three-stage rocket now beams five lasers at the oncoming Titan missiles. When the last of these craft are destroyed, Flight Plan Moon Cresta is re-activated for increased challenge and fun.



SPECIFICATIONS:

UPRIGHT

25 1/2" W x 67" H x 28" D
 64.77 cm W x 170.18 cm H x 71.12 cm D
 290 lbs. / 132 Kg



The MOON CRESTA game is manufactured by Gremlin Industries under license from Nihon Bussan Co., Ltd., Osaka, Japan.

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New capital, new name, new machines—*Centuri*

By RALPH C. LALLY II

It is truly amazing what a fresh supply of money can do for a floundering manufacturer in this business. An example of that is what happened recently to an old company with a new name.

On July 29, 1980 the stockholders of Allied Leisure met in Miami and voted to change the name of the company to Centuri, Inc. That day marked a new beginning for a dying company. The days of the old Allied Leisure were gone. And gone also were the recurring financial problems, slow-moving management, and the reputation for building games of substandard quality and play appeal.

Centuri's life-saving infusion of new capital came from the Kaufman Group of Industries, a closely-held conglomerate that has acquired a reputation of buying faltering companies and transforming them into successful and profitable enterprises. Although Centuri is a publicly-owned corporation, the Kaufman family holds controlling interest. This is their first attempt at making it big in the coin-op industry. By virtue of their sizeable investment, the Kaufmans are confident they can succeed in this industry as they have in other industries.

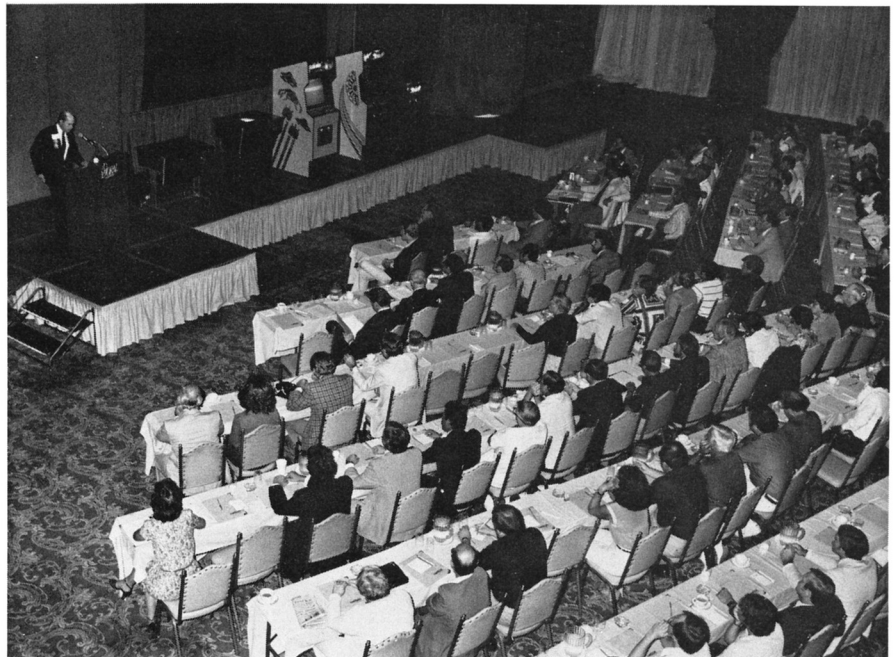
Centuri's first step was to recruit a top executive from within the industry to spearhead the transformation of the company. After months of searching, they contracted Ed Miller, former president of Taito America, for the position and responsibility of president and chief executive officer of Centuri, Inc.

Other top level appointments included William Olliges, formerly of Universal Research Laboratories, as executive vice president; Ivan Rothstein, one of the few survivors of the old Allied, as marketing manager; and John Chapin, Seeburg's ex-president, as head of the new phonograph division.

Armed with aggressive manage-



Centuri's offices and plant on West 74 Place, Hialeah: The revamped manufacturer won an industrial landscaping award for its appearance.



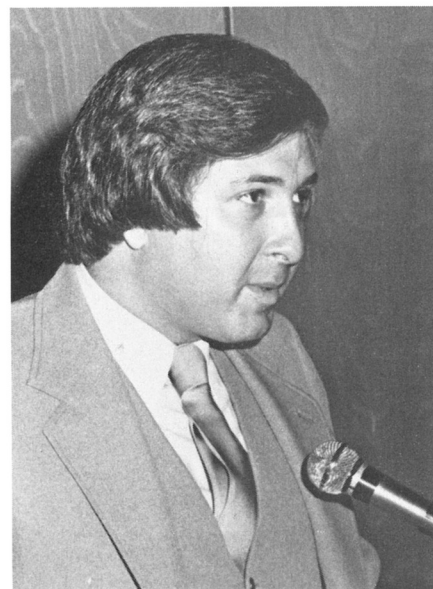
Distributors and other coin-op trade people hear Centuri President and CEO Miller: 'We plan to cover the market. We will build superb quality.'



Ed Miller



William Olliges



Ivan Rothstein

ment, sound financial backing, and a commitment to producing high-quality, profitable equipment, Centuri hailed 150-plus distributors from all over the United States, Canada, Europe, and the Caribbean to attend Centuri's first-ever Product Program Presentation. The event, which took place the weekend of September 12-14, was staged at the posh Doral Country Club and Resort in Miami, Florida.

For the very first time, Ed Miller as Centuri's new president, had the opportunity to address the large gathering of distributors. Referring to Allied's past, Miller stated that "Allied had good concepts, good ideas, and money-making products. The problem came in the area of systems, quality control, and manufacturing. Allied acquired a reputation for a company with good concepts but poor quality and longevity of product.

"Many of the companies that looked at Allied saw the potential but were afraid to take the risk. The Kaufman group of companies was not afraid and jumped into the middle of an industry which they did not know. They offered me the opportunity and challenge to take full charge and see that together we could form a company that's innovative, exciting, and profitable for our customers, our shareholders, and ourselves."

With regard to future plans, Miller went on to say that "we plan to cover the market with a long line of video games developed with our own research and development, as well as with licensing agreements from other companies. We will build superb quality into everything we make. A game that does not meet our standards will not leave our factory. We will build any piece of coin-op equipment that the market requires, even if it means building pinballs."

Bill Olliges, executive vice president for Centuri, echoed Miller's remarks concerning the manufacture of pinballs. "We all know the current state of the pinball market," he stated. "New techniques, new technology, and imagination must be applied to that product to revitalize that business. And we will be there with an expanded research and development program in the West Coast, Japan, Chicago, and Miami."

Centuri marketing manager, Ivan Rothstein, had the honor of introducing the company's new lineup of video games. Before doing so, however, he expressed his feelings about Centuri's role in the video game market. "The growth and

range of players generated by such games as *Space Invaders*, *Asteroids*, and *Galaxian* has changed the equipment balance from pinball to video. Today's video games are better built and break down less often than pinballs. This is due to the reliability of new electronics.

"This is one of the main reasons we have dedicated Centuri to be a prime video manufacturer. It is our belief and intent to prove to you that we can build games with the highest standard of technology available and deliver these games to you at the lowest possible cost. Our goal is aimed at developing a positive industry image and a wider player potential and a higher return for your investment while expending your total market."

Product from Hialeah, Florida

Rothstein then went on to present four new Centuri video games—two sitdown cocktail models and two upright models. The two cocktail models, *Rip Off* and *Targ*, are licensed games by Cinematronics and Exidy respectively.

Centuri's *Rip Off* features a black-and-white XY monitor with a color overlay. Incorporating improved electronics and power supply system, Centuri's *Rip Off* is a totally updated version of the Cinematronics game. The Centuri version, which will be produced in a cocktail configuration only will be called the Deluxe model. Other new features claimed by Centuri include greater reliability and specially designed telescoping legs. *Rip Off* is scheduled to be in full production by November.

Centuri's *Targ* cocktail game is licensed by Exidy. Referred to as "the latest adventure game manufactured in a cocktail configuration, with an emphasis on skill and adventure," *Targ* features a 13-inch black-and-white monitor and striking graphics.

One of the two upright games introduced by Centuri is called *Killer Comet*. It was said to be one of Centuri's own creations, taking months to develop. The game has been on location test in Florida for the past three months, Rothstein said, and averaged \$350 per week. *Killer Comet* features a 19-inch color monitor built into a colorful wood cabinet. It is a monster-blasting game with special sound and graphic effects. *Killer Comet* offers the operator an unusual self-diagnostic feature that is designed to check out all systems of the game.

The other upright video game,

called *Eagle*, was introduced at the distributors' meeting. Rothstein said this game had averaged \$65 a day over the past 30 days while on location test. *Eagle* features a 19-inch color monitor, beautiful graphics, and an upright wood cabinet. *Eagle* will also be available in a low-profile, cabaret style for those locations that require a more sophisticated look.

The highlight of the Centuri product presentation was the unveiling of an all-new coin-operated phonograph. It came as a shock to many industry observers that Centuri was going to produce a new phonograph. But there it was, the *Centuri 2001*.

Opening phonograph market

John Chapin, head of Centuri's new phonograph division, had the distinct honor of introducing Centuri's newly developed phonograph. In his opening remarks, he gave several reasons why Centuri had decided to enter the phonograph market. The first reason was the existence of a vast replacement market for phonographs.

"There are over one million jukeboxes on location throughout the world," Chapin said, "and they will all have to be replaced eventually. All we need to do is start supplying a small portion of the replacements needed. If we can supply one-half of one percent of the market, that would give us a very profitable music business."

As to the second reason, Chapin pointed out the need for improved technology and lower labor costs in the production of new phonographs. "All phonographs currently being manufactured," he said, "use mechanisms that were designed 25-30 years ago and are technologically obsolete. Labor costs 25-30 years ago were relatively low. The old mechanisms cost too much to build today due to the labor and materials that go into making them. The same could be said about electronic control systems, amplifiers, and speaker systems—all of which were designed 10-15 years ago.

We started by using the latest advances in modern-day electronic technology," he continued. "This made it possible to build a better phonograph. All of our systems require much less assembly labor and therefore result in a significantly lower cost."

Chapin's final reason stressed the lack of anything really new in the jukebox business for nearly



Morris Phia, Alabama distributor, checks out the selections on Centuri 2001, a centerpiece of the Doral Country Club presentation.



John Chapin, phonograph division chief, intently describes the Centuri phonos' record storage and cartridge systems: Breakthrough advances.



Jerry Gordon of Betson/Pacific plays Centuri's video entry, Eagle.

30 years. He claimed that up until now there was nothing to create a significant increase in customer play appeal—or a strong location demand.

Centuri's goal in producing a new phonograph was reportedly to save as much labor as possible. Chapin stressed that if labor costs can be reduced, total costs can be reduced while at the same time improving total reliability and quality. He said they have succeeded in doing exactly that and as a result can offer the new *Centuri 2001* phonograph for hundreds of dollars less than competitive models.

Among the new features of the *Centuri 2001* phonograph is a newly-designed record storage rack that consists of only two parts of injection mold plastic. The *2001* also sports a newly designed speaker system. A totally enclosed speaker cabinet located in the bottom of the phonograph is equipped with two large woofers and two passive radiators. Passive radiators, Chapin pointed out, look and act like speakers but are really diaphragms with no electrical connections, no voice coils, and no magnets. He said back pressure inside the enclosure produces sound waves through the passive radiator. This new system,

he announced, doubles the amount of sound energy that's created for a given amount of electrical energy that's put into it.

"This means that Centuri can provide a less expensive amplifier with the power output of an expensive one," Chapin stressed.

Other features of the *2001* include a universal dollar bill validator system which will accept any existing validator, a "Full view" wall box, three different sizes of external speaker systems, and auxiliary amplifiers for increased sound power.

There is also a "red money" eliminator with a key switch. This feature enables locations to make free selections to stimulate play without having to put money in. A "clear all section" switch enables the location owner to clear all the remaining selections in the phonograph at the close of business each day.

For operators who emphasize the need for tight cash control, the *2001* features a Cash Control Audit and Memory Display. All the operator has to do is punch in his own private three-digit access code and the computer reads out the total income for the life of the machine, period income, the exact number of each

type of coin that was deposited, the number of bonus plays, the number of free credits, and the number of times played by paying customers, as well as by the location. A portable computer printer is also available with this system for those wishing to keep a permanent record of the transactions for each phonograph.

The unique selection system of the *2001* offers a choice of 110, 170, or 210 selections. This solves the problem as to what format is better. The operator has all the options open to him. The newly designed Swiss mechanism plays on a first-come, first served basis. Customers hear their songs in the order they were selected, not by the manner in which they are stored.

This revolutionary new mechanism is very light and compact. The mechanism is so simple in design that a Centuri engineer completely disassembled and reassembled one of the mechanisms on stage in 62 seconds flat.

Full production of the *2001* phonograph will begin in late December or early January. Prototypes will be available for inspection next month and can be seen at the AMOA Show in Chicago. •

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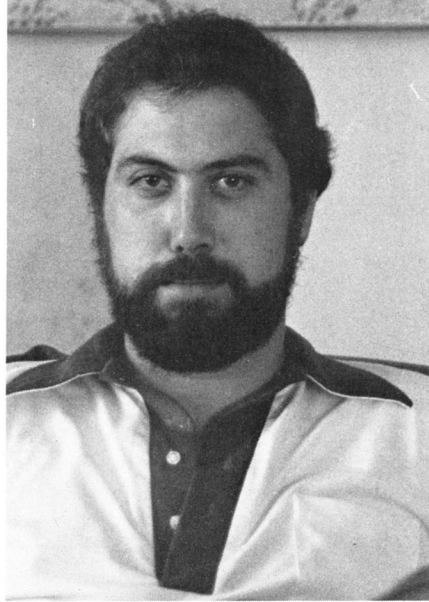
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Nemgar to Valley; promoting 8-ball league association

William J. Nemgar has joined The Valley Company, Bay City, Michigan, as a consultant with specific responsibilities in the formation and promotion of Valley's National 8-Ball League Association.

We are extremely pleased to have Bill working with us," stated Chuck Milhem, Valley president, "as his practical experience in the coin business will be valuable in assuring that this league concept will get off on the right foot and will be a most successful enterprise for our distributors and their operators on a continuing basis."

Nemgar will work with Warren Kelley to carry the program to distributors and operators, and help them to launch the program in many areas around the country. They will have several objectives, said Milhem. "First, they are to work with our distributors to help them increase sales; with operators to help



William Nemgar

increase table receipts and control of their tables. This will, of course, mean higher profits for their locations and organized competition for the players.

"The entire system revolves around the operator, and has proven itself as an effective program for increasing his gross receipts and maintaining his control of his coin-operated pool tables," Milhem concluded.

Nemgar will be working out of Rochester, Minnesota, where he was associated with D & R Star for several years. There, he helped design and implement a computerized system for monitoring the moves, collections, and maintenance for all machines.

He also played a key role in D & R Star's successful league operation, creating higher revenue while reversing the loss of coin pool tables to location owners.

Industry applauds Gremlin/Sega video demonstration tapes

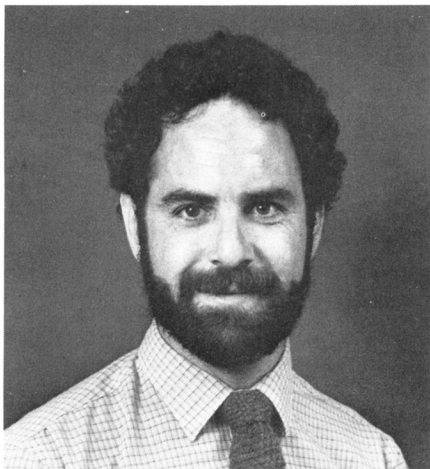
The coin-operated game industry is handing in rave reviews for a new videotape program developed by Gremlin Industries, allowing operators to tune in to *Astro Fighter*, *Carnival*, and *Digger* tapes at distributor showrooms.

Gremlin's "VideoFax" program, created by president Frank Fogleman, offers a creative method of introducing and demonstrating game play. Each tape, approximately seven minutes long, presents a dramatic vignette based on game theme.

The inaugural VideoFax tapes, introducing *Astro Fighter*, *Carnival*, and *Digger* games, debuted at Gremlin's June distributor meeting in San Diego with tremendous response. "Our distributors were flattered we took the time and energy to create an effective sales tool for them," said Fogleman. "The tapes go a step beyond actually playing the games, by effectively demonstrating complex game fea-

tures in an entertaining way. Our VideoFax program is illustrative of Gremlin's commitment to innovative ideas," he explained.

Gremlin distributors who have earned JVC playback/recorder units and portable color monitors as part of



Ron Stein

a sales incentive bonus, received copies of the initial VideoFax tapes for viewing in their showrooms.

The tapes were produced and directed by Gremlin's director of Video Production Ron Stein. Stein, a former photographer for the U.S. Navy and holder of a B.S. degree in Telecommunications and Film, came to Gremlin from KPBS-TV/San Diego where he served as producer/director.

Gremlin also produces VideoFax service tapes (often referred to as the "Margolin Tapes"), starring Customer Service Manager Steve Margolin. Margolin gives a nuts-and-bolts explanation of game components and troubleshooting techniques supplementing the game manuals packed with each game.

"We're very pleased our videotape program has been so well received. Our aim is to accompany every new Gremlin game entry with a VideoFax promotional and service tape," Fogleman said.

Producers face stringent FCC

Space monsters a la video games coming unpredictably on a home television screen? The chatter of a pinball game emitting from your car radio?

You may not see a problem there; indeed, you may never have experienced such effects. But the sensitive-eared Federal Communications Commission has picked up such vibrations, apparently. The result has been a proposed regulation on interference from computers and other digital equipment.

The regulations are strict enough to have several U.S. manufacturers of microprocessor-equipped electronic games concerned that the proposed January 1, 1981 effective date will not allow time to gear equipment for compliance.

In amending Part 15 of the FCC Rules, the Commission adopted two sets of technical standards, according to a public notice from the FCC. "One set of standards would apply to commercial computers, "Class A, which were less likely to cause interference because of their distance from radio and TV receivers, and another for personal computers which were closer to home electronic equipment. Class B radiation levels were set about 10 decibels tighter than those for Class A," said the FCC announcement last spring.

Ron Crouse of Williams Electronics

said, "They put us in Class B, which we feel is kind of arbitrary. It's going to present much more of a problem." That classification includes both home and arcade equipment that uses microprocessors.

Larry Berke of Midway manufacturing recently said legal and other staff of the Chicago producer "are on top of that. In fact we're at the front of it, doing what has to be done. The rest of the industry would probably follow suit."

Under the FCC proposal, a new game would have to be certified after FCC testing for compliance with the Class B standards. That procedure may take a period of 60 days, and "we may not have a game 60 days ahead of time," said Crouse, referring to the speed of putting a new product into the marketplace. Major manufacturers are making a concerted effort against the Class B rating and the time for effecting the rules, he said.

The standards for electronic noise emissions would affect pinball games. Tom Nieman of Bally Pinball Division said, "There are a lot of unanswered questions about what is contained with in it--just what do they mean, which greatly affects whether it can be done or not. Obviously, eventually anything can be done; again, there's the matter of cost in doing it."

Revised FCC rules were published in the Federal Register on April 9, 1980, and among other changes in the microprocessor standards, hand-held electronic games were exempted from the certification requirement. An FCC public notice stated: "All other electronic games and personal computers manufactured after January 1, 1981 must be certified by the Commission. Compliance with FCC technical specifications and equipment requirements, if specified are requirements for marketing" the equipment not exempted.

All commercial computers manufactured after October 1, 1981 will have to comply with the new standards before they can be marketed. "Most equipment compliance could be verified by the manufacturer," said the FCC notice. "However, it (the Commission) said devices having a high interference potential, such as personal computers and electronic games, would have to have an FCC grant of certification."

The manufacturer would have to test equipment for compliance and submit the test report with other information to the FCC for a certification if acceptable.

The FCC noted eighteen parties filing petitions or commenting on the request for reconsideration of the new standards, most of which questioned the FCC's haste in

The first in coin-op? Holy water...

Coin operated machines go far back in time. One source book on collectible machines says an Egyptian dispenser for holy water was described by an Alexandrian in 200 B.C. as taking five-drachma coins. Such a machine must have had a long service life.

After the fall of Rome and during the Dark Ages, the coin-operated machines of the ancients were inactive for centuries as civilization declined.

Then in the 1700s, a brass dis-

penser called an "honor box" was seen in English pubs. It gave tobacco for a half penny. The users were on their honor to close the box securely when they had filled their pipes with tobacco.

In the 1800s, patents were granted for hundreds of complicated coin-operated machines to dispense handkerchiefs, collars, cigarettes, a dab of perfume, toilet paper, gum, postage stamps, or a hard-boiled egg, according to the book "Drop Coin Here" by Fran and Ken Rubin.

The first gambling machines were

mechanical banks. One not intended for gambling was called the Race Course Toy Bank, patented by John Hall of Watertown, Massachusetts in 1871. All coin-operated machines in this period were called slots, before the name came to be used for gambling machines specifically.

The machines were set up to stimulate trade in a store. Customers pulled or spun a lever, and if their number came up, they got a prize or a token good for a free cigar. (See illustration in the article, "The Gaming Industry," this issue.)

NEXT MONTH: PLAY METER's AMOA ISSUE covers the Show!

'noise' standards

applying the standards.

"To insure compliance without placing too heavy a burden on manufacturers, the petitioners requested from six months to seven years would be needed, with several others claiming that they would have to shut down production if the July 1 date were adhered to," said an FCC report (No. 15628, available by request from the FCC, 1919 M Street, NW, Washington, D.C. 20554).

The jargon of the federal notice continues: "...Due to the hundreds of products needing to be tested, this shear (*sic*) volume alone would require many more months than the Commission envisaged..." Several protesting the rules cited additional time needed to get approval from Underwriters Laboratories and other government agencies and to make changes in electrical equipment.

Notable in the present timetable is that computing equipment in production before October 1, 1981 would have an additional two years to be certified for compliance. The production span of an electronic game is far shorter than an office-type computer.

As Crouse of Williams Electronics commented, the likely 60-day period of testing games would "severely limit" manufacturing. "An inter-

esting and beneficial side effect" may result from the regulations, however, in Crouse's opinion. "It may help to prevent fly-by-night export guys from shipping stuff into the country, because it would be illegal," due to the uncertified componentry.

Manufacturers including Midway, Williams, and Stern Electronics reportedly have filed petitions against the new regs in Washington. Atari, Inc. has taken the matter into Ninth Circuit District Court of California; the manufacturer's legal counsel could not be reached for comment as this issue went to press.

One industry comment was that electronic pinball games will be comparatively easier to get into the Class B level of certification than video games.

At the root is the nature of the machine guts at the present state of the games industry. "Microprocessor equipment operates at such high speeds that it can actually interfere with radiocommunications. There have been some isolated cases of microprocessor devices interfering with police radios," said one engineering source in the industry.

Ron Crouse of Williams said, "The FCC regulation primarily was geared toward the home video game, the home computer--but they just threw in everything, and to a very strict limitation."

Vending hardware hits a record

The value of merchandise vending machines shipped by American manufacturers last year reached an all-time high at \$357.26 million, according to figures released by the National Automatic Merchandising Association. The data was compiled by the U.S. Bureau of the Census, with the cost underwritten by NAMA.

Total value of machines shipped was up 2 percent from \$348,829,000 in 1978, but the number of units shipped dropped from 675,798 to 543,196 in 1979, said Joann James, assistant secretary-treasurer.

The unit drop was caused primarily by a reduction in shipments of small bulk confection and charm vendors, from 162,864 to 54,035 in 1979.

Unit volume dropped also for

canned beverage vending machines (from 141,639 to 115,958), for hot beverage machines (31,609 to 29,424), candy bar, cookie, and cracker vendors (15,377 to 12,353), and hot canned food vendors (3,786 to 2,959).

On the upswing were "glassfront" machines which sell bagged snacks, chips, and candy items, replacing in part the conventional candy machine (38,822 units in 1979, up from 35,718 in 1978), bottle soft drink machines (69,527 compared with 64,372 in 1978), cup soft drink vendors (12,036 up from 11,690), and postage stamp vendors (7,162 from 5,851).

The August report was based on data from 50 vending machine manufacturers and includes equipment shipped domestically for export.

Greenwald staff changes

Harry Silbergloit, president of Greenwald Industries, Division of Kidde, Inc., announced changes as part of an overall program to meet the expanding needs of the company's growth.

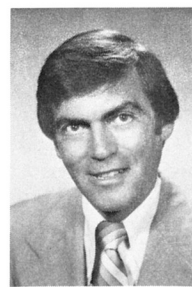
Phil Brown has been appointed marketing manager and will be responsible for the development of new markets and promotion of new products. Brown has a background of 21 years with Greenwald and his



Brown

wide experience and knowledge of the industry will prove invaluable to his new position, Silbergloit said.

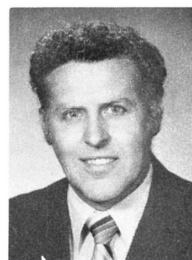
Ian Dowding was appointed sales manager and will be responsible for developing the company's relationship with its present customers, including appliance manufacturers, route operators, and distributors. Dowding has been with Greenwald for 13 years and has served as sales administrator and manager-OEM accounts.



Dowding

Bob Meyer has been appointed sales office supervisor and will be responsible for supervising the Order Department and day-to-day office procedures.

Meyer has been with Greenwald for 25 years and has extensive experience in manufacturing and sales. He will report to Ian Dowding.



Meyer

Command posters

A limited number of new full color *Missile Command* posters are being made available to operators free of charge through Atari distributors.

Designed to increase player awareness of the game at the location, these colorful 23" x 34" posters depict the challenge and battle action of this latest Atari hit video game.

Stern welcomes Seeburg handlers back

The large majority of previous Seeburg phonograph distributors will be returning to the line, under the banner of the Seeburg Music Division of Stern Electronics, predicted the division's president Larry Siegel.

The *Phoenix* phonograph, designed but not put into production by Seeburg Corp. before its bankruptcy filing of last year, will be the first machine built by Stern under its acquisition of the jukebox interest. Late October or early November will mark Stern's production start-up with *Phoenix*. The phonograph will be on display at the AMOA show October 31, said Siegel.

The second Seeburg box to be made in Stern's factory will be completely new, he explained. "I'm now building a good, competent box. Next year, we will have a superlative, revolutionary jukebox to offer," claimed Siegel.

Parts for serving older Seeburg models will be guaranteed, from the

Vogue line of 1975 onward, said Siegel, following a meeting with distributors in Chicago. Some professional parts houses will supply components for Seeburg boxes that are nine years old and older, he noted, mentioning Wico Corp. of Niles, Illinois as an example.

Siegel said the meeting for distributors August 21 had "100 percent attendance" by U.S. and Canadian handlers invited to Chicago by Stern. Discussed were the acquisition of Seeburg manufacturing interests by Stern Electronics in July, and the short-term and long-term projects of the phonograph division. "Most of the distributors were very receptive," Siegel said, adding that many were previous handlers of the Seeburg line.

Stern is "sympathetic to their needs," said Siegel. "We're not asking that they give up other products to return to the Seeburg fold." In a conversation with PLAY METER, the Stern/Seeburg chief

noted that a number of distributors have taken other lines, especially Rowe phonographs, during the period since October 1979 when the Seeburg plant has been dormant. "However, this year or the following year, the distributors I want will be back in the Seeburg camp," said Siegel, who was connected with the production and marketing of Seeburg phonographs before joining Stern in 1978.

Siegel said the Seeburg brand has "always been the Cadillac of the industry. In the next six months we will take its operators into the profitable stream, somewhere they have not been for a while," Siegel stated.

While Stern is committed to service on all its products, the demands on factory space led to cutting off parts supply with the *Vogue*, introduced in 1974, he explained, and 1975 will be the end date for parts to be warehoused unless needed parts are common to earlier pieces.

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NOW, EVEN BIGGER PROFITS FROM A COCKTAIL-TABLE MODEL OF TARG™ BY CENTURI.



Targ® is the latest fantasy adventure game manufactured in a sit-down cocktail table style, and the new format means a whole new market for the popular game of excitement, skill and adventure.

Play Action

The heroic "Wummel" in the player's green spaceship travels in columns and rows created by the squares of the Crystal City. His mission is to destroy the shrewd blue **Spectar Smuggler** (who rarely raids the city) and to dodge and destroy the angry red **Targs**, who defend the secret hiding place of the Spectar.

For One or Two Players

Operator selectable, insert coin. A message announces that the first player should prepare for action: **Get Ready, Player**

1. Game play begins with ten hostile Targs attempting to ram the Wummel. As the game progresses, Targs become smarter **and** faster, increasing the threat and challenge for the player.

The player controls the Wummel's direction and speed with a four-way joystick—and fires at the Targs and the Spectar Smuggler by pressing a fire button.

Wipe out all Targs, and a new game screen is presented.

Targs become smarter and quicker to create an even greater challenge for advanced players.

One Small Step for Peace

Each Spectar hit, 100 to 500 points are awarded, while the red Targs are worth 10 points each. When all Targs are hit, 1000 bonus points are awarded and then each Targ hit increases by 10 points. This bonus continues to increase by 1000 and Targ hits by 10, incrementally.

Bring 'em Back Alive

Operator options include:

Top Today's Hi Score:
Extended game play or extra credit (operator selectable) toward game play for topping the high score of the day.

Coinage: Amount of coins per player, and international coin types.

Audio: Sound effects include: fire sound, explosion, Spectar siren and two musical tones. Volume for each may be controlled individually or by

a master volume control.
Turns/Player:
2, 3, 4 or 5
turns per game play
(operator selectable)

Set the Height

Adjustable height, from sit-down to bar-height of 39 inches, with three settings in between.

Other dimensions:

Width: 25 inches (63.5 cm)

Length: 35½ inches (90.2 cm)

Minimum Height: 25½ inches (64.8 cm)

Maximum Height: 39 inches (99 cm)

Features Worth Noting

- Adjustable height means added markets, more revenue opportunities.
- Wide base means stronger cabinet support.
- Vibrant colors on 14-inch monitor.
- Monitor is hinged for easier service access.
- Skill challenge increases with player's ability.
- Easy serviceability of "security" cashbox.

TARG™

In a new table model style
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Play Meter Equipment Poll

Here are the November results of PLAY METER's subscriber survey ranking pinball and video games. Rankings are compared with games' standing in the October poll.

Top Pins

NOVEMBER	OCTOBER	NOVEMBER	OCTOBER
1. FIREPOWER/Williams.....	1	11. LASER BALL/Williams.....	9
2. SPACE INVADERS/Bally.....	2	12. SEA WITCH/Stern.....	7
3. GORGAR/Williams.....	3	13. PANTHERA/Gottlieb.....	—
4. SILVERBALL MANIA/Bally.....	4	14. SUPERMAN/Atari.....	13
5. FLASH/Williams.....	5	15. BLACKOUT/Williams.....	18
6. METEOR/Stern.....	8	16. (tie) KISS/Bally.....	—
7. GALAXY/Stern.....	10	(tie) MYSTIC/Bally.....	—
8. BIG GAME/Stern.....	6	18. GENIE/Gottlieb.....	—
9. STELLAR WARS/Williams.....	14	19. ROLLING STONES/Bally.....	20
10. SPIDER-MAN/Gottlieb.....	12	20. CIRCUS/Gottlieb.....	—

Top Videos

NOVEMBER	OCTOBER	NOVEMBER	OCTOBER
1. ASTEROIDS/Atari.....	1	6. MONACO GP/Gremlin.....	5
2. GALAXIAN/Midway.....	2	7. RIP OFF/Cinematronics.....	6
3. SPACE INVADERS/Midway.....	3	8. TARG/Exidy.....	8
4. ASTRO FIGHTER/Gremlin & Data East**..	4	9. CARNIVAL/Gremlin.....	—
5. MISSILE COMMAND/Atari.....	—	10. SPRINT II/Atari.....	7

** Note: Responses do not differentiate between the cocktail table (marketed by Data East) and the upright version (leased to Gremlin for marketing).

The PLAY METER subscriber survey of pinball and video games will be a regular feature in subsequent PLAY METER publications. If you would like to join readers currently participating in the survey, simply fill out the coupon below and return it to PLAY METER.

NAME _____

COMPANY NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

TO: PLAY METER Equipment Survey, P.O. Box 24170, New Orleans, LA 70184

Atari claims inroads into new coin-op locations

Atari pits video against pinball in earnings comparisons used in its current advertising to various market areas outside the coin-op games industry.

Describing its push called a "marketing support program" for Atari's recently introduced compact Cabaret cabinet video, Marketing Director Frank Ballouz said: "The combination of a popular high-earning video game with a cabinet design that requires only four square feet of floor space is an ideal profit combination for both operators and for locations where floor space is limited."

Using convenience store locations as an example of this target area for the Push, Ballouz told PLAY METER that, contrary to the belief of many operators, the convenience store market is "virtually untapped."

He referred to a recent market study sponsored by Atari which showed that less than 20 percent of the convenience stores have games in them.

To start attacking the market, Atari ran an advertisement in the August issue of that industry's trade publication, "Convenience Store News." The ad, which pictures two youngsters playing on an *Asteroids* Cabaret model in a quickie-type store, poses the weekly gross of a coin-operated amusement game as \$60-\$200, depending on the location or on the game. The ad states: "In one industry study of over 450 game

operators, the average weekly gross earnings of a pinball game was reported as \$88, while a video game produced an average of \$90 per week...*Asteroids* Cabaret can generate income of over \$1120 per square foot per year!"

Further, says the Atari as: "A pinball (using the \$88 average weekly gross), which uses 12 square feet, can earn an annual income of \$381 per square foot." The ad urges convenience store managers to see an Atari distributor or an operator about the new *Asteroids* Cabaret.

Ed. Note: The potential problem of such a marketing drive, i.e., that it would make pseudo-experts on games out of location owners and thus create location demands for specific pieces of equipment that are hard for operators to meet with their restricted cash reserves, is a subject touched on in one of the "State of the Industry" reports in this issue—"*The Hit Syndrome*."

Ballouz said, "The ad program is aimed at various market areas to increase awareness and stimulate demand for the Cabaret style video game as a high potential contributor to profits and to help open the door for aggressive operators to new profit opportunities."

Ballouz said Atari was planning to place similar trade advertisements in publications reaching restaurants,

hotel/motel managers, military and college union managers.

A wide-open market

The main "target area" that is particularly new in this list, various sources said, is the wide-open chain restaurant market for coin-op games. Ballouz said in a recent conversation with PLAY METER that Atari staff are speaking to McDonald's, Burger King, and all large fast-food organizations concerning placement of videos and pins in their stores.

"They're changing posture from in-and-out as fast as they can serve customers," he said, noting that some McDonald's units have been placed in elaborate settings such as amusement parks. "So it's not as fast-food as it used to be."

McDonald's had shown interest in having coin-op games, Ballouz stated.

McDonald's corporate spokesman would answer no question on the matter when contacted by PLAY METER.

However, a chief competitor in the fleet-eating field, Burger King, showed dim interest in videos on-premises. A corporate spokesman in Miami told PLAY METER recently, "Burger King is not near going into it. But we always listen." In a high-volume restaurant business, the increase from players lingering to play games would be a small margin, said Burger King's Paul Reinhart. And that echoed the standing

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corporate policies of the large restaurant chains, remaining tough nuts for the coin-op games industry to crack.

Atari is working to loosen resistance to games in the fast-food marketplace, "talking to several franchisees of McDonald's and toying with them the concept of testing games in their locations," said Ballouz. "If we can get them to test those with a minimum amount of problems...hopefully we can get them to get the corporate (McDonald's) to endorse it."

Such an opening would benefit Atari with "our fair share of business," said Ballouz. Operators would benefit in being able to offer service to locations, he contended.

"Our success will be if we can open up the locations, the operator is going to need equipment. We know it's not going to be 100 percent Atari equipment, but it is going to be coin-operated. If the operators can open new locations, generating additional revenue, we know from our past experience and our confidence in our product that we will get our fair share," said Ballouz.

"What we're doing, I feel is something the AMOA ought to be doing: going out in numbers and strength for what they can do for these people. They are not, so we are taking it on ourselves at Atari...if that organization cannot and will not do it. If we expand the location level, we will get our fair share of business in that."

In other moves, Atari this summer was investigating a course of attack against copyright infringement on game products, similarly to Midway Manufacturing's action—taking the course of initiating lawsuit.

Ballouz said the copiers are in England, Italy, Japan, and other areas outside the United States. "But the product is hitting the U.S. shores. We're investigating means to halt these copiers. Money to the copiers is leaving the industry, and there is no servicing of the product." (See related article, this issue.)

While this is an international problem in copyright litigation, there is possible legal procedure, for example in the United Kingdom, he said.

—by Ray E. Tilley



Stern Electronics was presented recently with a plaque of recognition from the American Heart Association for Stern's sponsoring a three-day AHA campus fundraiser last spring. Accepting for Stern, above is Larry Siegel (extreme right), now president of the Seeburg jukebox division. Co-sponsor Gerry Taylor, National Lampoon publisher (far left) also received a plaque. Presenting: actress Mary McDonough, AHA national youth ambassador, and Phil Philpot, chairman of the AHA National Youth Committee. Eighteen sets of collegians won pingames in the drive.

NAMA talks solid state

The new solid state vending machines were discussed at a meeting convened in August by the National Automatic Merchandising Association in Chicago. NAMA President G. Richard Schreiber said progress toward achieving compatibility of various systems of data acquisition and retrieval from the "new generation" systems was achieved.

"Representatives of vending machine and coin mechanism manufacturers had a thorough and frank discussion with operating company members, and we all felt encouraged that the groundwork was laid for further discussion at a follow-up meeting which NAMA will schedule next month," Schreiber said. Participants stressed that the new generation of micro-processor-equipped vending machines and various methods of data collection capable of being fed into operators' computer systems will have a benefi-

cial impact on cash control, inventory control, security measures, and merchandising capability.

Concerns expressed at the Chicago meeting revolved around compatible "language," the ability to retrofit machines now on location, manual collection of data, and being able to separate desirable data from excessive information. It was stressed that computer and electronics manufacturers have already perfected the new components and hardware in applications for other industries.

There was agreement that capital investment will be justified by compatible language and standardization of systems permitting application interchangeably to machines of different manufacturers—to produce increased bottom-line profits for operating companies.

Nicastro adds XCOR duties

The board of directors of XCOR International, Inc. has named Louis J. Nicastro president and chief operating officer of the company, in addition to his responsibilities as chairman and chief executive officer. James J. Hughes, 46, has been appointed vice chairman of the board from his former position as president and chief operating officer.

The board of directors also announced that William P. O'Brien, 46,

will now assume responsibility as executive vice president in charge of mergers and acquisitions. O'Brien formerly served as executive vice president/finance and chief financial officer.

XCOR International, Inc., through its subsidiaries, manufactures vending machines, amusement games, musical instruments, and hearing aids. It also operates a theatre-in-the-round near Cleveland, Ohio.

Aussie operators: A firm stand

The amusement games industry in Australia is pulling its weight in economic impact as well as political issues of operator regulation.

In Australia, the coin-operated games industry employs one person per \$10,000 of capital invested, according to industry studies there. The general manufacturing industry in the continent Down Under employs, by comparison, one person per \$20,000 of capital invested, as does the motor vehicle industry, according to statistics from the Institute of Public Affairs. The iron and steel industry employs one person per \$40,000 and the mining industry, one person per \$340,000 invested.

Coin-op in Australia is, therefore, labor-intensive and a significant employer.

Evidence given to the 1979 Industry Assistance Commission Hearing on Tariffs supported the claim of being a \$60 million annual revenue industry, according to a June 1980 article in "Local Government," a publication for grassroots officials in New South Wales, Australia.

The article by David Landa, a representative of the Australian Amusement Machine Operators Association since 1961, said the Australian AMOA considers local government to be the most suitable regulating body, but would like to see a uniform standard adopted throughout the country. Current government aims are "uncoordinated and inconsistent," said Landa. "It promotes litigation and economic hardship, rather than dealing with the real problems of abuse. Codes in force call for a variety of restrictions, many without apparent value or reason. License fees vary greatly from area to area; some appear to be punitive.

"Abuse" which raises officialdom's complaints Down Under are cate-

gorized thus:

—The proliferation of the amusement machines;

—"Excessive spending" by children, or, in the minds of some critics, "exploitation of children;"

—Illegal use of machines for gambling;

—Lack of supervision leading to disorderly conduct, drug usage, and eyegore premises.

The Australian AMOA sees the shotgun charges as lacking "convincing evidence" in the main. Where there is illegal activity, the authorities "do and should prosecute," with the coin-op industry's support, Landa wrote.

"The industry's answer to the charge of proliferation and exploitation is that the amusement machines provide a popular form of low-cost entertainment. If an affluent person can play games on a television set, billiard table, or hi-fi system—surely comparable facilities should be available to those without similar resources," said the AMOA spokesman. It is a worthwhile argument, applicable to shores beyond the Australian continent.

Action taken by Landa and the AMOA was to draft a suggested code, based on regulations approved by the city council of Sydney on February 11, 1980, Landa said. Those were proposed for adoption throughout the state of New South Wales.

Operators in North America, whatever the model law they wish to have adopted, can take a similar approach through the county commissioners associations of local governments.

In Australia, the draft code was submitted to the Local Government Association for the adoption of a common code of regulation, basically

providing for licensing operators for a specific maximum number of machines at specified premises. Licensing the operator was viewed as a basic aspect of the proposal. "If an offense occurs, it is the operator who loses the license, so that machines cannot be operated on the premises until a new operator, applying for a license of those premises, satisfies the requirements of the council," wrote the AMOA official.

The Australian proposal recognizes the essential need for machines to be rotated in a number of locations. No more specific identification than a maximum number of games is being proposed. And while it is proposed that the operator be licensed, no license fee is being recommended. Supervision of game rooms and such aspects as cleanliness, toilet facilities, and safety factors are the meat of the code menu as set down for dealing with "abuse."

Landa sums his case in the local government publication: "...There is no reason why the amusement machine industry should be isolated and treated differently from any other in our society. It serves a purpose, providing leisure and pleasure at a low cost, to which there can be no objection."

No one in the industry or the society at large wants abuse of the types cited, the AMOA official notes, and: "In common with local government, the industry body has an honest desire to bring to an end any operation that does not meet an acceptable social standard."

To which we could only add that the logic of the operators' association "Down Under" is anything but upside-down.

— by Ray E. Tilley

Japanese technology hits the world :

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Recel's Flipper

Recel S/A of Madrid, in introducing its *The Flipper Game* recently, gave the industry in Europe a "monumental playfield," said the manufacturer—action area for the steel ball that takes up as much width as the lite box, making use of "wasted space." This offers "the widest range of mechanisms and features," according to Recel.

The electronic system employed by Recel is based on the Rockwell PPS-4 microprocessor and is called "System III." Technical points include individual high score to date displayed for each player of four player positions; the model and serial number is contained in memory; and ribbon cable is used for board-to-board connections.

The game has a harmony of shape, from the backglass on to the play area. Graphics emphasize a pinball "champion" player and nine "pixie" girl onlookers.

A "super score" of 250,000 is offered as an incentive for a game of precision and long duration. Bonuses hold the possibility of scoring 10,000 to 30,000 points per bonus, as well as extra ball and extra play features, together with the super score.

United Kingdom and Irish distributors for Recel include Coin Operated Amusements Ltd., Dublin Road, Kildare, Ireland, where the sales manager is Martin Dempsey.

'Star Wars' in a pingame

A. Hankin & Co., Australia's largest pinball manufacturer, has produced its fifth pingame, *Empire Strikes Back*. The machine has a doubled mirror backglass giving the effect of villain Darth Vader in fire. Bright red "flames" encompass Vader's head.

The machine was released at the Australian Machine Operators Association Convention held in Surfers Paradise, July 16-18. Australian operators will be able to tie-in with many "Star Wars" promotions being organized by Mike Farley International. (More than 50 companies have taken up license for the use of the name Star Wars in Australia, including Coca-Cola, McDonald's, Kellogg's, Toltoys, and others which are interested in joint promotions.)

Overseas operators who wish further details of the *Empire Strikes Back* pingame can write to: A. Hankin & Co., 183 Darbey street, Newcastle, N.S.W., Australia.



INTERNATIONAL CALENDAR:

Overseas coin-op shows

Japan Exhibition—October 8-10, Exhibition Center, Tokyo

Rivalling London's ATE as the largest coin machine exhibition in the world and already its equal in importance since the advent of video. Tokyo expects its largest overseas support ever; the visitors expect even more.

IAAPA Convention—November 22-24, Rivergate Center, New Orleans

Better known as the Parks Show, the IAAPA Convention is now established as the world's leading exhibition in the field of amusement park and fairground equipment but boasts a large number of coin machine exhibitors among its 400-plus supporting companies.

Forainexpo—December 9-12, LeBourget, Paris

Now a really international show, primarily an amusement park and fairground rides exhibition but with an increasing number of coin machine interests. Again the location makes this show an attraction for many overseas visitors.

ATE—January 12-15, Olympia, London

Fire having destroyed the famous old Alexandra Palace, the big British event moves to Olympia—a larger venue more conveniently situated in London—and promises to improve on previous years. Security has been tightened

and the first of the four days is being reserved for BACTA members.

Horecava—January 12-15, Rai Centre, Amsterdam
A popular show with European distributors and operators that will undoubtedly suffer as a result of London's ATE being forced to bring its dates forward.

IMA—January 22-25, Messenlglade, Frankfurt
Well timed to steal some thunder from ATE prior to "that disrupting fire" but nonetheless an outstanding coin machine show that is probably the most comfortable to visit, anywhere.

Northern Show—February 17-19, Blackpool
Britain's other major trade event staged at its most popular seaside resort. A northern version of ATE with a strong emphasis on arcades.

Milan Fair—April 14-23, Milan

A mammoth show incorporating a variety of exhibitions but with the amusement park and fairgrounds rides, particularly kiddie rides, predominant—although the coin machine industry is far from overlooked.

Coin-Op '81—April 29-May 1, Dublin

A coin machine show introduced last year with some success. The Irish hospitality and siting of this pre-summer event could well enhance its stature.

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Profiting from coin-op TV

By J.W. Sedlak

You can increase the profits from your route operation by adding coin-op TV. This is the conclusion reached after a study of this specialized part of our industry.

From the giant Midwest International (which operates over 3,000 sets in bus stations and airports throughout the country), to the clients of Eldorado Products Ltd. (which started with as few as two sets), the daily income figures have been surprisingly consistent and predictable.

Before getting into the details of income versus expenses, let's take a look at why coin-op TV is popular. We'll also look at the kind of equipment it takes to get started. By understanding the background, you will be in a better position to judge if the pay TV business is right for you.

Since coming into the American home in the late 1940s, TV has been playing an increasingly significant role in our daily lives. Whole generations have now grown up with the TV playing the part of teacher, baby sitter, and entertainer. I was at a family gathering recently when two of the wives spent hours discussing what were apparently the most intimate details of the lives of family members. It wasn't until later that I discovered what they were really talking about was the latest happenings on their favorite "soap operas."

We are rapidly becoming a nation of TV addicts. Some people will reschedule almost everything so they can see their favorite program. TV executives love them. In fact, the television people have taken new steps over the last couple of years to "capture" more and more people. Witness the rise of the multi-part nighttime serial, those shows that run for three, four, or even six nights in a row. Why go to the movies and see a 1½ hour film, when you can wait a year and see the whole thing in six hours on TV?

Of course, it's not only the

children and women who watch tv incessantly. Ever hear of *football*? It used to be that Saturday afternoon was for college football and Sunday afternoon belonged to the pros. Now there are pro games on Saturday night, Sunday afternoons, and Monday nights. And, every now and then, we get to watch Monday Night Football on Thursday! And, it's not just football. From "specials" (such as the World Series, the Olympics, or the Stanley Cups) to the weekly golf and boxing shows, TV tries to keep everybody watching.

With the TV industry spending millions of dollars to attract viewers, the American public is starting to

demand a new service. They want to be able to watch TV wherever they are.

The coin machine industry has responded to this demand for service with the introduction of the pay TV. The concept is simple. You take a small black & white TV set, attach a coin mechanism and a reliable timer, and you're in business. Of course, it's not quite that easy. You have to decide what TV set to use, what are the best antennas, what are the best locations, how much to charge for this service, and what commission split to offer.

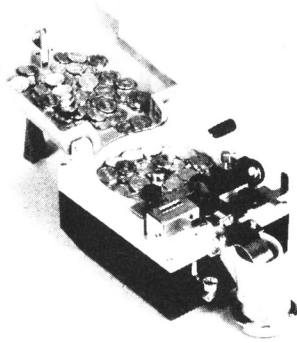
These questions were posed to several different, successful pay TV



Pay TV helps keep the kids occupied in a family-restaurant setting. The location can advertise this advantage, a selling point for the operator.

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operators and distributors and the remainder of this article will present their advice.

TV sets for the location

None of the people we talked to recommended an American brand set. Most operators said they use SONY sets, with the SONY Model 780 being the "standard". Other sets mentioned in the survey were Panasonic and Hitachi. Generally, operators use a 7-inch model and build a case around it. In order to prevent unnecessary service calls and reduce vandalism, most of the controls are covered. Only the channel selector and, sometimes, the volume control are accessible to the customer.

Vandalism can cause problems, so it is important to install the sets securely. One of the biggest airport and bus terminal operators builds their own chair and stand combination. They build the chairs in their factory and interwire them to make a "three-chair rail". This then becomes their standard unit and they install the units on location. They do not offer these units for sale, but if you are thinking of installing the sets in an uncontrolled environment, you should consider building something similar yourself.

For installation in more controlled locations (such as coffee shops and restaurants), a simpler housing around the TV will be sufficient. You can either build one yourself, or purchase one of the units commercially available. A well constructed unit is available for \$160 from Eldorado Products Ltd., Redondo Beach, California, and from KVE Company, Manhattan Beach, California.

Antennas

The antenna system you use will depend a great deal on the area in which your sets will be located. If you are in a strong signal area, and the building you are in does not contain an excessive amount of metal or electrical interference, you may be able to use the set's built-in antenna. For most installations, however, an outside antenna will be mandatory. There are many good antennas on the market.

You should keep in mind that you need a complete "system". In addition to the outside antenna, you will need coaxial cable, cable connectors, couplers, splitters, and stand-offs. In some areas you may also need signal boosters and electrical noise filters (especially around airports). The decision on the specific system is up to you. Some of our pay TV operators had good results from the products of Winegard Co., Burlington, Iowa.

If you plan to install the sets in an area served by cable television, you will want to arrange for a hook-up. Although this will increase your monthly costs, it will save the cost of the antenna system and will provide your customers with a greater variety of programs. You should negotiate with the cable TV company for a rate per location—not a per-set rate.

Locations

As with everything else in the coin machine business, location is the key to a successful operation. When I first started looking into this venture, I figured that the best locations would be ones where the people had to wait a long time. Places like beauty parlors, laundromats, and bowling alleys looked ideal. Well... according to the experts (operators who make money with coin-op TV), these are all *bad* locations. Each operator had his own theory on why the locations didn't make money, but all agreed you should stay away from these businesses.

Another poor location is the local bar or pub. Patrons in these places are used to getting their television for free—from a set above the bar. They are not going to start paying for it.

Now that you know where not to locate, let's look at some of the better places to set up your TVs.

One of the best locations is in an airport. Bus stations and railroad terminals are also good. The key at all these locations is volume. A little-used terminal will not generate sufficient business to pay for the equipment and collection/repair costs.

One of the larger airport operators uses a traffic volume of 300,000 inplanements per month as his guideline. Anything less does not justify the costs involved. Even at this rate, the airport can only marginally support a three-chair operation. Volume figures are available from the local terminal management or, in the case of airports, the Federal Aviation Administration.

Other good locations are establishments where you find families. Coffee shops and family restaurants where there is a wait for food are excellent prospects. A family restaurant located on a well-traveled tourist road is ideal. Here the clientele is new every day and harried parents are often looking for some way to keep the children busy after hours or car riding. A smart restaurateur can increase his business significantly by advertising his TVs on billboards along the highway. The TV is small enough that it will not take away his seating capacity.

Once you know where to find good locations, the next step will be

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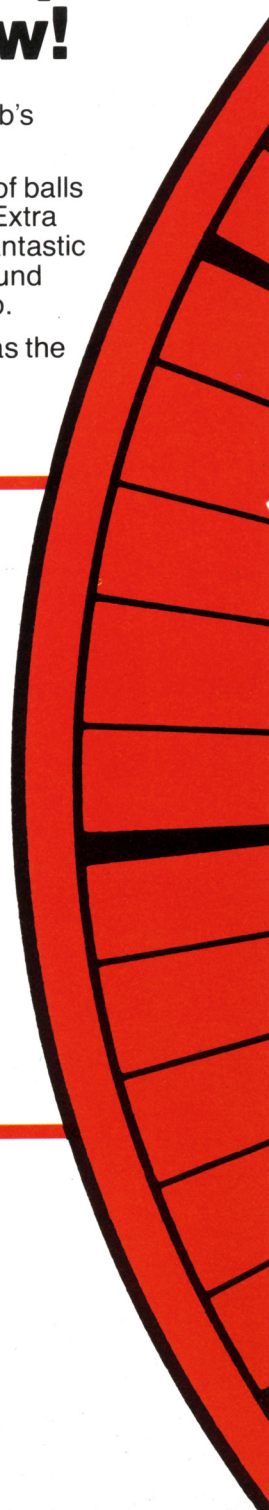
*Pulsing . . . pulsing . . . louder and louder . . . all around you . . .
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pulsing . . . time . . . time . . . time!*

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to be sure you pick the right spots within the store. You should avoid small tables. Always choose a booth or table that seats four to six people. Make sure that your booths are not directly in sunlight. It is difficult to watch a washed-out TV screen. You should plan on starting out with four sets in each location. Make sure you get the four best tables with maximum visibility.

Rates

Once you have the TV sets installed at good locations, the next decision you face is: How much to charge? In talking with operators, we found the pricing structure they use varies from 10 cents per 10 minutes to 25 cents per 15 minutes. Although this is a significant difference in rates, the operators reported almost identical daily income per machine figures. This would indicate going with the highest practical rate, 25 cents per 15 min. By using this pricing, you will not sacrifice income and you will save considerable wear on the equipment. Also, if you find you are not generating sufficient income, you can announce a price reduction and obtain some extra publicity and, hopefully, more income.

Commissions

The last of your initial start-up

considerations will be the commission split you offer. Since pay TV is a unique area of the coin machine business, you are not stuck with the outrageous 50/50 split most operators are forced to give on games.

Most of the coin-op TV operators we talked with offered their locations a 75/25 or 80/20 split, the operators getting the 75 or 80 percent of the gross.

You can negotiate this type of commission arrangement if you stress the fact that you are actually providing the location a service. You are helping them create an attractive atmosphere that will have great appeal for families. You are also giving them a unique business feature that they can advertise. In fact, if the location promotes the installation of the TV sets correctly, they should be able to get a great deal of free publicity from the business section of their local paper.

So, when negotiating the commission, stress the advantages to the location and the uniqueness of coin-op TV, and give away as little of the gross as possible.

Income

Now that we have looked at most of the details of this operation, the question you still want to have answered is: "How much can I

make?" Let's examine some real-life statistics to arrive at a reasonable answer.

As stated in the beginning, the daily income figures reported by the operators are surprisingly consistent. All operators agree that the average income on a coin-op TV in a reasonable location is between \$1.25 and \$1.80 per day. Some locations earn more (up to \$3.00 per machine per day) and some less, but the average will fall within the figures stated. For the rest of the calculations here, we will use \$1.55 as the average gross income per machine per day.

Your first reaction is probably that for a buck and a half, it's not worth the trouble. Before dismissing this business out-of-hand, look closer at the income potential of coin-op TV and compare it with the normal pinball game.

As stated above, the typical coin-op TV location will have four sets installed. This will result in a gross income of \$6.20 per day, or \$2,263 annually. If you have done the correct negotiating of commissions, you will keep 75 percent of the gross, at minimum. This means your annual income from each location will be about \$1,697.

A location of this size would

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normally be expected to support two pinballs. These games would generate an income of about \$6.00 per day each. That would result in an annual gross income of \$4,380. At a normal 50/50 commission split, you would get to keep \$2,190 of this. Thus, your income from the pinball operation would be about \$500 a year more.

Now, let's look at some of the costs involved. The initial purchase of the TV sets complete with the coin mechanism, timer, and protective case will run about \$360 per set. This would figure out to a cost of \$1,449 for the four-set location. In addition, you have to add in the cost of the antenna system and electrical wiring. These should run about \$100 to \$150 for the average location. Therefore, your total installation cost for the sets and all accessories should be under \$1,600 per location.

If you compare this with the cost of two new pinballs (at \$2000 to \$2500), you will more than make up for the difference in annual income.

Another point you should consider—unlike pinball game routes, there is no rotating of equipment. Once you have the equipment installed, it just stays there—earning money year after year. Except for the coin mechanism, there are no moving

parts to wear out. The TV is actually on for less than two hours a day. The picture tube and other components should last for years. Costs are, of course, associated with making collections and performing minor repairs and adjustments. These will depend a great deal on how big your territory is and how far between locations.

As a sideline to your present business, you can start making money with just a couple of locations. If you were to try to make a living solely from coin-op TV, the experts tell me, you would need at least 100 sets located in good coffee shops or restaurants within a relatively small geographical area.

If you were thinking about concentrating on airports and other transportation terminals, you would need as many as 1200 to 1800 machines! This is due to the large territory you would have to cover to find terminals with sufficient volume to support three or more machines.

Conclusions

Pay TV already represents a segment of the coin machine industry that is generating several millions of dollars of income annually. To date, the operations have been mainly in air and bus terminals, with a few forays into the small location route

operation.

The installation of pay TV in eating establishments appears to be on the front end of a growth curve. The initial, successful operations are in California and are ready to move East.

It is an operation that can be added to your present routes with small capital outlay. As stated earlier, a complete four-set location can be put into operation for less than the cost of a good video game.

Although none of the people I talked with mentioned it, it would seem natural that some smart manufacturer would add a couple of knobs and some logic boards to the TV set and let the customer play ping-pong during the commercials. This small modification could really make the profit picture climb.

Even without this addition, every operator should consider which locations on his present route would make good coin-op TV spots. You should also look at new locations—especially among the chains of family restaurants that are sweeping the country.

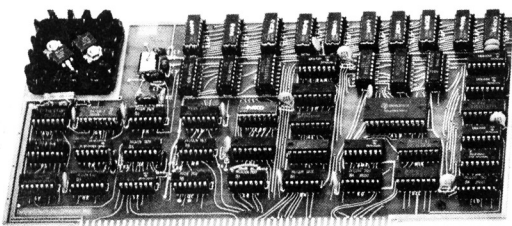
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Program/Music Director WQUE New Orleans

Disks set 'new records'

Thus far in 1980, the record industry has been given a lot of assistance by the film industry. Or maybe it's the other way around? Whatever, the likes of soundtracks such as "Urban Cowboy", "Roadie", "Xanadu", "Honeysuckle Rose", et al., have really sent a slumping industry to new heights. Excluding 1979, when everyone and his mother had a disco record out, 1980 has set new records (so to speak) for the quantity of product on the shelves. But this time the quality has been there, too. And that's good.

FOR YOU, LOVE—AVERAGE WHITE BAND—Arista/AS 0553

The soul side of this talented bunch is back on this second attempt at success, single-wise from their debut lp on Arista. An excellent vocal arrangement intertwined with with some nice keyboards and bass lines make this Earth, Wind & Fire-ish tune a distinct possibility to climb: should score high on the R&B charts and could crossover—7 out of 10 on highest chart.

LET ME TALK—EARTH, WIND & FIRE—ARC Columbia/1-11366

Speaking of Earth, Wind & Fire—they're back! And it's a return to the funkiness that thrust them into the spotlight. The message is "be proud no matter who you are" and slaps at politics, too. Maurice White has once again given us another song to sing and dance to. The horns are happening, the voices are vibrant, and the record's a hit: 10 out of 10.

DREAMING—CLIFF RICHARD—EMA America/P-8057

After having finally cracked the American music scene again (the second time in the past 8 years) Cliff is back with us again. He, of course, is either second or third on the all-time record selling lists in Britain, but Stateside success has been hard to come by. From a new album, this Leo Sayer co-written tune has a definite commercial sound: good acoustic guitars strummed behind excellent throaty vocals by Richard. The tune and lyrics are nice, too. And it's not the Blondie song. Give it 8 out of 10 with proper airplay.

I'M COMING OUT—DIANA ROSS—Motown/M 1491F

Here's another solid guaranteed smash from one of the top selling lps of 1980 and one of the premier acts of our time. Bernard Edwards and Nile Rodgers of the Chic clan have teamed up with Diana again to create pure danceable excitement. I personally think this should have been the debut song (because of the lyrical content), but who's gonna argue with success? Like "Upside Down", this one's headed straight for the top. It's even a little progressive in the arrangement—but that won't stop it going 10 out of 10.

CAN'T WE TRY—TEDDY PENDERGRASS—Philadelphia International Records/ZS9 3107

In a first, this record not only gets a review, it's charted, too (see R&B list). From the soundtrack "Roadie", this female grabber is doing just that! Teddy already has extraordinary powers over the ladies, and this sensual effort will do nothing to hurt that reputation. It's produced by Mr. Pendergrass and features those soft whispery

The records are rated as follows: 10 out of 10 = Top 10 peak; 9 out of 10 = Top 20 peak; 8 out of 10 = Top 30 peak; 7 out of 10 = Top 40 peak; 5 or 6 out of 10 = Somewhere in Top 100; 4 or less = Forget it, loser, break in half.

vocals surrounded by lush strings and nice piano and guitar work. When Teddy's on, he's on! And he's on this time. Should chart high in three categories with a *9 out of 10* on highest one.

S.O.S. [Dit Dit Dit Dash Dash Dash Dit Dit Dit]—THE S.O.S. BAND—Tabu/ZS9 5526

Yes, the title is for real. That's what it says on the record label. You finally get to know what S.O.S. means, and from the opening guitar picking (on one note that sounds like Morse Code) it's pure fun. This was the second most popular cut in the disco and the natural followup to the ultra-successful "Take Your Time (Do It Right)". The rhythms and the horns make this one go and it will go right to the top! This great party record gets a *10 out of 10*.

WITHOUT YOUR LOVE—ROGER DALTREY—Polydor/PD 2121

From the movie "McVicar", this beautiful ballad has the earmarks of success. Obviously an Adult Contemporary smash, I have every reason to believe it'll chart on the Hot 100 listings, too. The lyrics are poignant and can be easily related to by just about anyone who is in or has ever been in love. Daltrey is in superb vocal form as songwriter Billy Nicholls weaves a dream with excellent acoustic guitar work. Just a pleasure to listen to: *9 out of 10*.

THE WANDERER—DONNA SUMMER—Geffen Records/GEF 49563

Donna debuts on this Warner Brothers subsidiary after much ink and controversy following here departure from Casablanca, the label she helped get off the ground, then keep alive. She's taken songwriter-producing genius Giorgio Moroder with her, not to mention producer Pete Bellotte. The number starts with an electronic rock feel and moves into some very uncharacteristic vocals by Ms. Summer. Then everything falls into place as Donna begins to sound like Donna, if only for a little while. This single and the album from which it comes should keep the audience she already has as well as bringing some converts into the "Summer camp": *10 out of 10*, natch.

PLAY METER HOT STUFF

- UPSIDE DOWN**—DIANA ROSS—Motown ***
MIDNIGHT ROCKS—AL STEWART—Arista ***
HOW DO I SURVIVE—AMY HOLLAND—Capitol
ALL OUT OF LOVE—AIR SUPPLY—Arista ***
I'M ALMOST READY—PURE PRAIRIE LEAGUE—Casablanca ***
LATE IN THE EVENING—PAUL SIMON—Warner Brothers ***
HOT ROD HEARTS—ROBBIE DUPREE—Elektra ***
SOMEONE THAT I USED TO LOVE—NATALIE COLE—Capitol
ALL OVER THE WORLD—ELECTRIC LIGHT ORCHESTRA—MCA ***
THE LEGEND OF WOOLEY SWAMP—THE CHARLIE DANIELS BAND—Epic ***
DRIVIN' MY LIFE AWAY—EDDIE RABBITT—Elektra ***
NEVER KNEW LOVE LIKE THIS BEFORE—STEPHANIE MILLS—20th Century Fox ***
DON'T ASK ME WHY—BILLY JOEL—Columbia ***
WHIP IT—DEVO—Warner Brothers
I'M ALRIGHT—KENNY LOGGINS—Columbia ***
ON THE ROAD AGAIN—WILLIE NELSON—Columbia ***
NO NIGHT SO LONG—DIONNE WARWICK—Arista ***
WHO'LL BE THE FOOL TONIGHT—LARSEN-FEITEN BAND—Warner Brothers ***
XANADU—OLIVIA NEWTON-JOHN/ELO—MCA ***
WOMAN IN LOVE—BARBARA STREISAND—Columbia ***
LOOK WHAT YOU'VE DONE TO ME—BOZ SCAGGS—Columbia ***
JESSE—CARLY SIMON—Warner Brothers ***
REAL LOVE—POINTER SISTERS—Planet ***

PLAY METER PICKIN' & GRINNIN'

- DRIVIN' MY LIFE AWAY**—EDDIE RABBITT—Elektra ***
THEME FROM DUKES OF HAZZARD—WAYLON JENNINGS—RCA ***
THAT LOVING YOU FEELING AGAIN—ROY ORBISON & EMMYLOU HARRIS—Warner Brothers
MAKING PLANS—PORTER WAGNER & DOLLY PARTON—RCA
ON THE ROAD AGAIN—WILLIE NELSON—Columbia ***
I'M NOT READY YET—GEORGE JONES—Epic
OLD FLAMES CAN'T HOLD A CANDLE TO YOU—DOLLY PARTON—RCA
HEART OF MINE—OAK RIDGE BOYS—MCA
FADED LOVE—WILLIE NELSON & RAY PRICE—Columbia

PLAY METER FUNKIFIED

- LOVE DON'T MAKE IT RIGHT**—ASHFORD & SIMPSON—Warner Brothers
GIRL, DON'T LET IT GET YOU DOWN—O'JAYS—TSOP
UPSIDE DOWN—DIANA ROSS—Motown ***
LET ME BE YOUR ANGEL—STACY LATTISAW—Cotillion
GIVE ME THE NIGHT—GEORGE BENSON—Warner Brothers ***
HE'S SO SHY—POINTER SISTERS—Planet ***
I'VE JUST BEGUN TO LOVE YOU—DYNASTY—Solar
NEVER KNEW LOVE LIKE THIS BEFORE—STEPHANIE MILLS—20th Century Fox ***
SHAKE YOUR PANTS—CAMEO—Chocolate City

*** Previously reviewed in *PLAY METER*

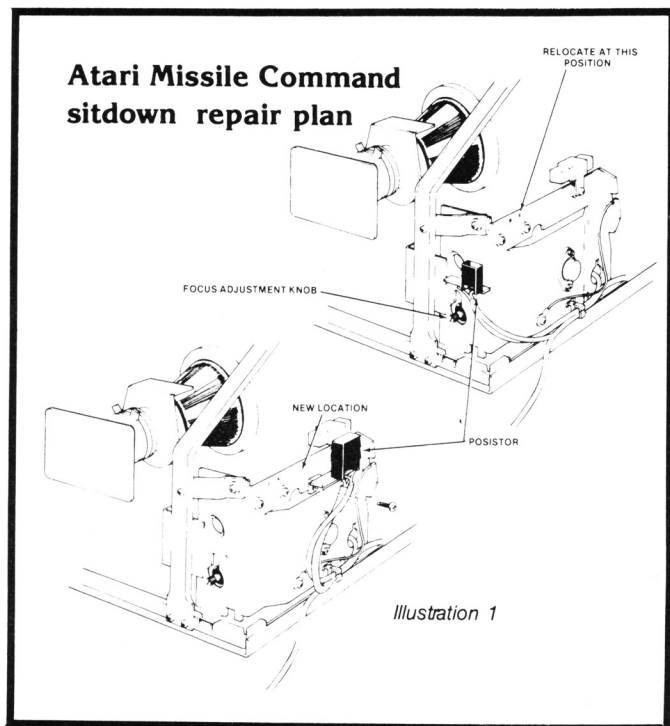
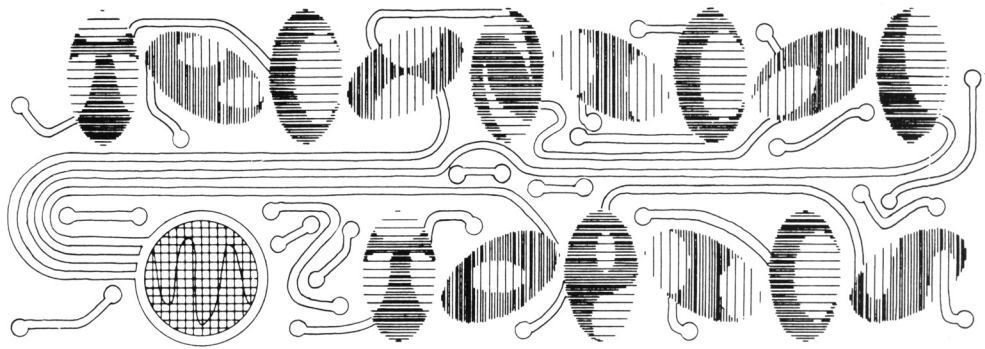


Illustration 1

'Hazard' in Missile Command

From Atari comes a "warning" in regards to the *Missile Command* cocktail model: There may be a hazard of electrical shock at the black posistor just above the focus adjustment knob at the right-hand side of the monitor chassis (as viewed from the rear). To avoid this potential hazard, the posistor should be relocated away from the focus control in the existing hole as shown above, *Illustration 1*, according to the manufacturer. Use the same screw (screw will form its own threads).

Atari, Inc. urged that this modification be implemented as soon as possible.

This hazard may affect *Missile Command* cocktails from S/N 001-449, 454-455, 462-464, 468, and 681.

For further information, call Atari Field Service at 800/538-1611 or 408/745-2077.

IDEAS WANTED!

PLAY METER will reward 'Great Ideas' for technical improvement or modification of coin-operated games!

For details on how to achieve fame in these pages—and win \$25 per idea accepted—see 'Play Meter invites tech solutions,' in this issue.

—Ed.

Bally display tester 'blanking' modification

The circuit shown here, when incorporated into your Bally Display Test Set (as-2518-15), will enable the technician to "blank any or all of the four leading digits.

This modification will allow the technician to isolate faulty digit segments that appear only when that digit position is "blanked."

This circuit can be assembled on a 4½ x 6 inch perforated circuit board (available at Radio Shack) and mounted onto the test unit.

NOTE: Use sockets for ICs.

See *Illustration 2*, next page.

—courtesy of Star-Tech Journal,
Merchantville, New Jersey

Rock-Ola 'Debounce Kit'

The Rock-Ola Manufacturing Corporation has developed a "Debounce Kit" to alleviate the problem with Model 473 and 474 phonographs removing more than one credit when only one selection is made.

Rock-Ola has also produced two modification kits for the Model 478 phonographs. Both are designed to prevent static-induced problems in the profit setter and hit tracker units. The #2308 Anti-static Kit is installed on the profit setter board; its function is to eliminate erratic operation or "lock-up" of the credit unit. The #2309 Filter Kit is designed to prevent similar malfunctions in the hit tracker kit. Field tests reportedly have indicated that excellent results are obtained by the installation of these kits, as no further problems have been encountered in phonographs so modified.

Complete installation instructions are included with the kits, and they can be installed in the phonographs on location. However, modification should be made by qualified personnel, because a considerable number of alterations are required in order to get good results.

The Model 474 "Debounce Kit" modifications can be made in approximately 20 minutes. The Model 478 requires approximately one hour to properly install both the #2308 and #2309 kits. The kits can be obtained from any Rock-Ola distributor.

BLANKING PROBLEMS

Operators of Rock-Ola phonographs have reported experiencing, under some unusual electrical and atmospheric conditions, frequent blanking of the location's top hit displays. This problem can be remedied by replacing the 100K ¼-watt resistor designated as R1209 on the hit tracker board with a 75K ¼-watt resistor.

—from *Amusement and Music Operators of Virginia's*
"The Quarter Note"

Troubleshooting: Targ 'freeze up'

Some *Targs* will, during normal play of the game, suddenly freeze up and stop all movement on the screen. When this occurs, there is no apparent cause—e.g., static, etc.—and the condition can only be solved by removing and reapplying power to the game (power-on reset). This freeze-up is due to a combination of insufficient input impedance on control lines and a disturbed +5V buss.

If you have received a *Targ* with this problem, take this procedure:

1—At location 9F on the Logic PCB (Assy. 77-3374-15), you will find eight capacitors arranged in a pattern like a DIP package. These must be 1 microfarad tantalum capacitors with their positive lead oriented in the direction of the audio PCB. If not 1 microfarad tantalums, replace them with this value and type capacitor.

2—adjacent to location 9E you will find a 10-pin single-in-line resistor pack (SIP R18). Pin 1 of this SIP is tied to the +5 V buss of row "D" through a trace on the non-component side of the PCB. A jumper (30 gauge insulated wire will suffice) must be installed from pin 1 of the SIP near 9E to the +5V source for the Logic PCB at J1-P through V (on the 44-pin edge connector).

Helpful hint: The problem can be induced (in a game that fails) by simultaneously and continuously depressing the *FIRE* button and rapidly activating the coin credit switch, one to ten times.

Bally resistors need a change

A recent change in effect in Bally games is in the game displays, lowering the current to extend the life of the E680 display panel. This was done by changing the seven segment drivers on the AS-2518-21 display driver modules. The seven segment drivers labeled on the modules as R27 through R33 have been changed from a 1K ohm resistor to a 1.2K ohm resistor.

This is recommended to be used as the replacement part on all prior models.
—B.M. Powers

Troubleshooting:

Alternate *Galaxian* PC board

1. Due to a supply problem, an alternate PC board may be located at position 8F, —h, and 4J, 4K.
2. The alternate PC board replaces the Bi-Directional Drives 8216, 8304, and 74LS245 (at 8F, 8H, 4J, 4K, 9B, and 5J.)
3. The ICs on the alternate PC board are 74LS244 and 74S00.
4. The alternate PC board can be removed and ICs 8216, 8304, and 74LS245 can be used in the proper location.

Galaxian Color Variation

Recently, due to supply problems, Midway Manufacturing had to use substitute color monitors in their *Galaxian* video game. Some Electrohome monitors used in the cocktail table version may show discoloration or color variations in the image. Also, moving the game around may induce the problem. The monitor is equipped with a degaussing coil to balance fluctuations in magnetism on the CRT. However, manual degaussing may be required when the problem is not self-corrected.

A degaussing coil may be obtained in major electronic parts supply stores and is priced around \$35. It

consists of a circular winding with an on-off switch and is plugged directly into a wall outlet (117VAC).

With the game on and power applied to the coil, move the coil slowly around the CRT face area, then slowly withdraw for a distance of 6 feet before removing the AC power from the coil.

This procedure should be followed before attempting any purity adjustments.

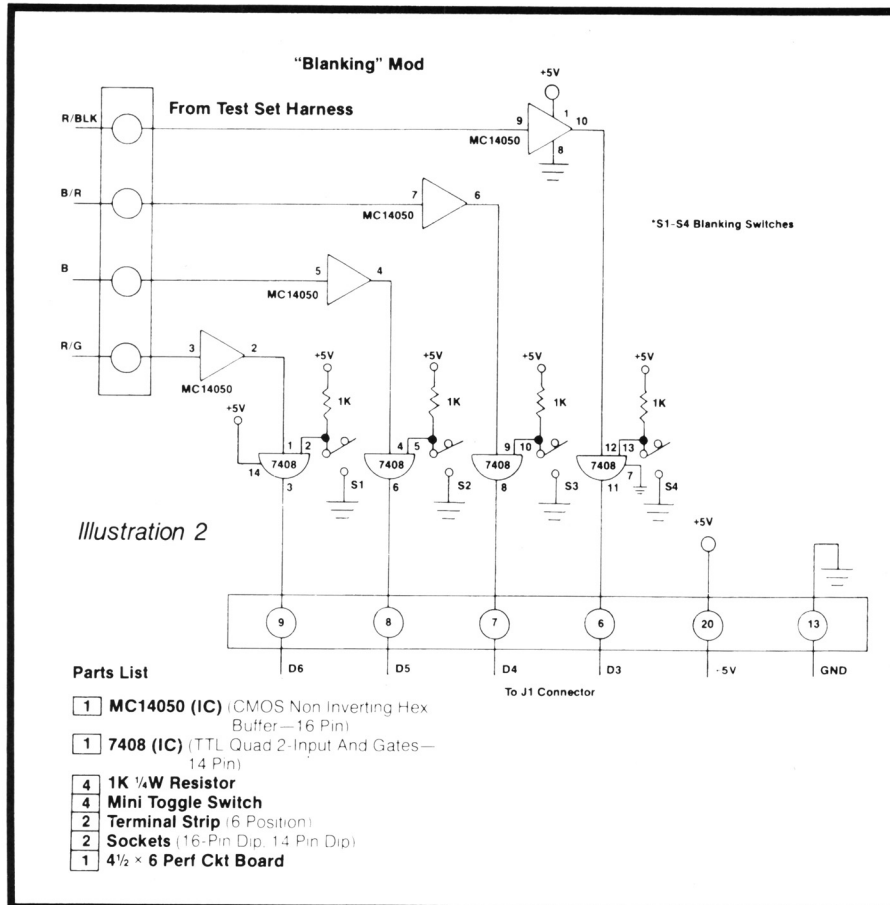
Atari monitors

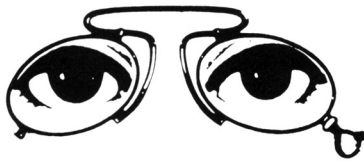
Atari, Inc. advises, when ordering parts for the Electrohome Quadrascan monitors used in *Asteroids*, to make sure to order parts for the correct monitor.

Games with serial numbers below 18900 use the G05-801 monitor. Games with serial numbers 18900 and above use the G05-802 monitor.

The G05-801 monitor has two PCBs with large black heat sinks on the right side of the chassis. The G05-802 monitor has only one PCB which is mounted on the right side of the chassis.

NOTE: The PCB assemblies are *not* interchangeable.





Critic's Corner

By Roger C. Sharpe

The Big Four scramble and the AMOA rabbit trick

The rumor mills are filled with speculation about who's doing what and when. And, although many of the developments have become common knowledge, there are some new things happening which makes one wonder as to where the industry is heading. Video, of course, is at the top of the news with some unexpected name(s) getting into the act for the upcoming AMOA show. And pinball hasn't been that dormant as witnessed by some gossip of upcoming games that should really provide a test as to where pinball may or may not fit in for the upcoming months.

It is this last-minute scrambling which has always characterized the business as companies try to ready their various rabbits to be pulled out of hats at the AMOA, and I'll be naming names and getting more specific next time around. But, for now, suffice it to say that surprises are going to be the rule rather than the exception as every manufacturer gears up for what each hopes will be the "hit" of the convention. But beyond the gossip, things have stayed much the same as of late.

Admittedly, there are some pin

which are holding their own, but for the most part, nothing has come out that's grabbed back the lost business given up to video. One positive note is the increased discussions going on regarding tournaments of varying sizes and formats and, even more important, from this writer's view, is the work done by Gary Marince. You've seen his name and picture in these pages and I'd just like to take this time to commend him on his Quadriplegic Pinball Tournament [see *PLAY METER*, September 15]. It's just super that someone has taken the time and dedication to find a way for the handicapped to play and enjoy the games, and one can only wish that this type of event would be staged repeatedly around the country and throughout the year. There are so many people in need of help, and here we have a truly noble venture. My congratulations to Gary and may he always be able to provide these special moments for some very special people.

But it's time once again to see how the pinball giants are succeeding or failing at getting and keeping the business. This month includes something for everyone from each of the

majors. Interestingly, we're still faced with a fairly flat market, but the flow of games hasn't decreased. In fact, it seems to have picked up, if you take a look at the number of models available for 1980 so far. And even the formats of conventional, "squat" body and that intermediary big-game size, have each continued to be made, and obviously are being sold and played. So the march goes on with a couple of "stars," a sea monster, and the return to those lusty days of Kirk Douglas and Tony Curtis. Just read on.

Williams' SCORPION

The newest wide (squat) body from the people on California Avenue is a fitting follow-up to their heavy hitter for 1980, *Firepower*. There's multi-ball play with a twist and some of the other basics which have become so much a part of the successful efforts this company has enjoyed the last couple of years. **PLAYFIELD:** The top offers three lanes (4-5-6) at the right to start along with a long runway over to the left side and a top spinner as well as entry to the old playfield-within-a-playfield concept. On *Scorpion* there

Roger's Ratings At-A-Glance

Williams' SCORPION..... ##¹/₂

Stern's STAR GAZER..... ##¹/₄

Gottlieb's STAR RACE..... ###

Bally's VIKING..... ##³/₄

are two top banks of three drop targets at the left and a set of three targets (1-2-3-) at the far left along with a set of flippers. Over at the right are three thumper bumpers and a chute for getting back to the top lanes. Move a bit down the field and there's a five drop target bank and two targets fronting the opening to that left side "mini-field." At either side are some nicely recessed kick-out holes and the bottom offers the double lanes down to the flippers.

ANALYSIS: One of the better balanced "squat" body machines, *Scorpion* takes advantage of its size by utilizing a far more effective playfield-within-a-playfield design than some recent efforts by the competition. And along with this comes a far better use of multi-ball play and the inclusion of a backglass timer for increased values on the board, the longer the multiple balls are kept in play.

Briefly, some things have changed and some have stayed the same. The top three lanes with the lane-change feature don't control bonus multiplier this time around, but light the thumper bumpers. The bonus multiplier is tied into the five bank drop targets, increasing from 2X to 3X and 5X. The field within a field offers not only a set of large flippers rather than the small ones Gottlieb used on *Genie* and *Circus*, but also some very accessible drop targets which increase in value from 10,000 to 50,000 points and special. In addition is a spinner for access back to the top and three side targets for lighting the spinner. But it's at the bottom of the field, where things get interesting. At either side with fairly easy-to-get kick-out holes, locking balls up isn't as difficult as it was with *Firepower*. In fact, the kick-out holes are always alive unless there is a ball in one. Get both in and the timer starts with values increasing on the board such as the right side back up to the lanes where the roll-over switch can offer 50,000 points, extra ball or special, depending upon the increments of time the balls are kept in play—a novel and exciting way to utilize time on the playfield. Even the outlanes can double the time value when the balls are kept in play long enough. And

the shots are balanced with some good reverses as well as long shots back to the top for a rest period. **GRAPHICS:** Thank God we've gotten a reprieve from space for the time being. This nautical adventure is striking with its two-headed monster and a vibrant use of complementary colors that are even carried through on the playfield. It only goes to show that when everything is *space*, the themes that depart from the norm can take on a new importance and gain a greater visual impact.

PLAY: *Scorpion* offers some good build-ups even though the out-hole bonus doesn't mean heaps of points—that's left for other areas on the board. For three-ball play in extra ball areas you should be safe with 250,000 points to start and followed by 450,000 and 700,000 point levels. On free play, you might want to increase these suggested limits by about 100,000 points each depending upon the caliber of play at your location.

PROS & CONS: For a "Squat" body, *Scorpion* does all that it can with the field dimensions and even adds a bit more because of the multi-play. The time of play is a bit longer than usual on recent pins and that's a positive as well and yet, the game can be taxing to play only because it is as physically draining as it is. However, it's nice to be able to get that involved with a pinball machine for a change, although the result can be that repeat play may be lacking once you've been put through the paces any given time around.

The shots have a wide array of choice and the timer unto itself is something that should be further integrated into future games because of the element of challenge it presents as a true test of machine versus man. On the whole, I think it's one of the better wide body games ever done and should be a winner at most locations, despite a size I personally don't, and have never, cared for.

RATING: ###¹/₂

Gottlieb's STAR RACE

The next wide body from

Gottlieb offers a bit more crowded playfield design than some recent versions, and some of the company's staples such as vari-targets, which have become trademarks.

PLAYFIELD: Four lanes (1-2-3-4) begin the play at the top and lead down to two widely spaced thumper bumpers. There's a kick-out hole up to the right of this and a lane with two star rollovers further over to the right side. In between this is the first of two vari-targets which controls R-A-C-E depending upon the velocity of the ball hitting the target. There's an upper right flipper here, and over to the center of the field a bank of four yellow drop targets control the bonus multiplier when appropriate values are lit from 2X up to 5X. The left side has its own play with a top "space loop" and a fronting three drop target bank for extra point values and extra ball when lit. Down a bit is a left side alleyway and the second vari-target: this one controlling S-T-A-R. The bottom offers a left side kicking rubber and a two lane run-down to a separated set of double flippers, while the right side offers a fairly long roll down to the right lone flipper.

ANALYSIS: There's almost something for everyone here on *Star Race*. The top lanes (1 and 4) light respective values for yellow or green in the top right kick-out hole and also activate the build-up for potential bonus multiplier values, from that center drop target bank. Otherwise most of the focus is tied into the vari-targets and in lighting the S-T-A-R or R-A-C-E for potential specials as well as building up out-hole bonus points.

However, the nice touch on the game is the left side loop which can be made from the top right flipper or even better, from the lower right flipper up and around that short little alleyway and up and over the loop. It's a great shot to make and the fact that it increases the value of the drop targets just in front to a possible extra ball, means that it's not a wasted shot made only for the aesthetics. There are some good bouncing angles from the thumper bumpers and that entire top area for the rest of the board, although the primary thing most players will go

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PINBALL GAME IS REALLY
TAKING OFF!"**



**Introducing the 3-ball,
Triple-Action Rocket Launcher!**



"5...4...3...2...1...Blast Off!"

Typical Play:

Player deposits quarter.
**"Prepare For Mission... Player 2
 Standby... Player 3 Standby...
 Player 4 Standby!"**

Player knocks out B-L-A-S-T lane
 lights—transferring lit letters to
 entrance of Rocket Launcher.
"Blast"

Player knocks out O-F-F lane lights.
"Off!"

Player makes skill shot to enter ball 1
 into 3-stage Rocket Launcher—
 lighting Apollo One.

"1st Stage Go!"

Ball 2 enters playfield. Player makes
 skill shot to enter ball 2 into entrance
 of Rocket Launcher—lighting Apollo
 Two.

**"2nd Stage Go... All Systems Go
 ...Commence Countdown!"**

Ball 3 enters playfield. Player
 knocks down Sequential
 Countdown Targets.

"5...4...3...2...1!"

Player makes skill shot to enter
 ball 3 into Rocket Launcher.
"Blast Off!"

All 3 balls are launched
 through 3 stages onto play-
 field—creating triple play,
 multiple ball action.

Multiple Ball
 Rocket Launcher
 (also, above right)

50,000 point
 "Skill Shot"
 Drop Target Bank

Sequential
 Countdown
 Targets

Multiple Value
 Spinner—
 up to 5,000
 points per spin

Wide Body
 Playfield



STERN

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for it that center bank of targets and not too much of anything else. But to explore the game and really get into it is a rewarding experience not found too often on recent Gottlieb games.

GRAPHICS: For some reason the backglass motif reminds me of *Jet Spin* and *Super Spin*, although the colors are darker here. But it is basic Gottlieb artwork with a splattering of color to match on the playfield, and even the use of some flashing lights helps to enliven the game and its swirling space theme.

PLAY: The scoring, with a count-down at 20,000 in that top right kick-out hole offers the possibility of big ball play, but for the most part, the points are an effort of building up values around the board. On three-ball play for free play areas you should be able to get away with 350,000 points to start and followed by 600,000 and 850,000 points. On extra ball a decrease of about 100,000 to 150,000 points for each level should be sufficient.

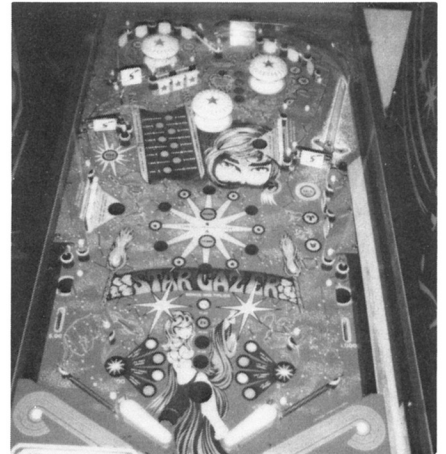
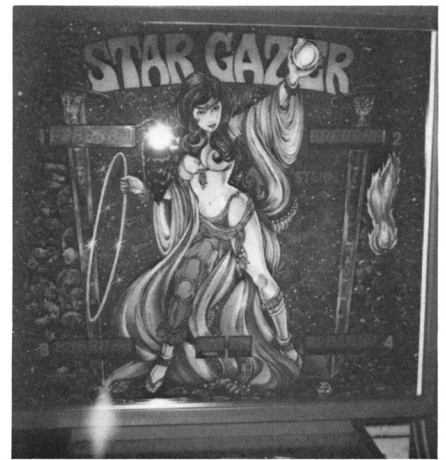
PROS & CONS: *Star Race* is one of the better games Gottlieb has done in recent times. There are a number of good shots to make, not too many dead spots or the intolerable drains and roll-downs from access points on the board, although these haven't been totally eliminated from the top loop down past the left thumper bumper and left vari-target. But for the most part, *Star Race* is a fair playing game. The problem once again, however, with the new games from this company and the wider and longer playfields is the power from the tips of the flippers and the ability for any kind of noticeable power on the limited reverses.

The flippers were always the strong point on past Gottlieb games, especially for their accuracy, but this is no longer the case and hopefully it can be rectified in future efforts, since it is such an integral part of any pinball game. And, unfortunately, it does detract from the overall view and opinions on any game since one isn't able to "play" it the way one thinks one can. Frustrating may be the key word. However, this effort is a step in the right direction for the manufacturer and holds up even as a "squat" body.

RATING: ###

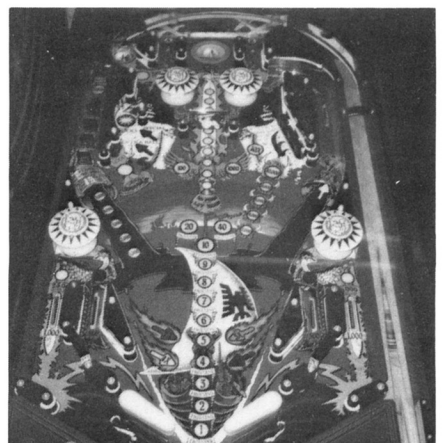
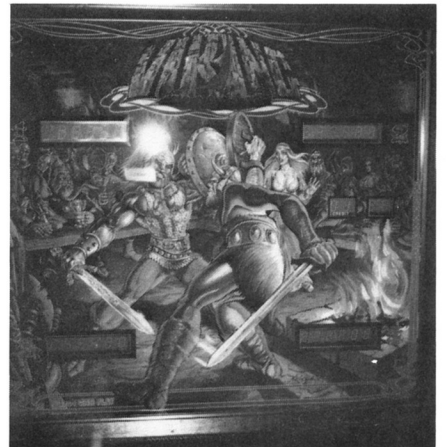
Stern's STAR GAZER

Almost impossible to keep up with the many games being turned out by this ever-growing force in the



Williams' SCORPION

Stern's STAR GAZER



Gottlieb's STAR RACE

Bally's VIKING

industry, this effort offers some new twists and overall decent play in keeping with the inroads Stern has made and is continuing to make regarding pinball design.

PLAYFIELD: A little looping arc leads down to a thumper bumper and a right side array of six zodiac sign targets. Meanwhile, up at the top left is another thumper bumper and four more zodiac targets that offer an opening at the right, a spinner at the left and a three drop target bank just in front with values from 500 to 100,000 points. Move down and there's another thumper bumper with a three bank of drop targets at the right on a perpendicular angle to the bottom flippers and a left side spinner in addition to the one above. And back over to the right is yet another spinner for access back to the top. Back at the left at mid-field is another three bank of drop targets, while over at the right are two more zodiac targets. The bottom is different from most efforts with a scooped-out configuration featuring a roll-over button on either side just above the flippers.

ANALYSIS: *Star Gazer* is an interesting mix of targets, spinners, and almost non-stop action across the playfield with the right and left side drop target banks meaning bonus multiplier up to 10X as well as the spotting of a zodiac target for a building up to extra ball and special values. The top three drop targets offer their own values lit just before as mentioned previously.

For the most part everything is fairly contained and the play is fast, especially with the bottom set up of the scoops which can get the ball caroming away from the kicking rubbers or swooped out from the star roll-over area on pure momentum alone. The bonus values can be held over in the bank from 12,000 to 24,000 points for some heavy scores with the multiplier, but Stern has kept its seven digit scoring which should get a workout on this particular machine. And, gratefully, scoring hasn't been artificially hyped to help as was the case on *Cheetah*. There are some good reverses and good clearing shots for all the banks on the field, with the rest of the action supplied by the thumper bumpers and a good placement of them throughout the top.

GRAPHICS: An attractive backglass (thankfully not space-inspired) and a catchy use of playfield graphics and lights to match, make this a nice, total package that's eye-catching and appealing with its preponderance of

blue tones.

PLAY: The seven-digit capability offers some good settings, or at least the opportunity to space out the limits according to any percentage you're trying to keep. For extra ball play—keep in mind that Stern now has their “stacking” add-a-ball play, which you may or may not want to retain (personally, I think it's great for the player and hence the operator)—you might want to open with 600,000 points and then jump up to 1,500,000 and 4,000,000 points depending upon whether you keep the stacking ability in. And for free play go with 1 million first level and increase it by 2 million each for the next two limits.

PROS & CONS: The game plays smooth, although there are some problems with that opening and a dead area at the end of the arc leading into the first thumper bumper area. And any shots going straight up to the top, sometimes also come straight down, but the sweep from that lower left spinner up and over past the top drop targets and then between the two thumper bumpers is a nice thing to go for.

Much of *Star Gazer* is that gun and run approach, and if the legs on the machine are backed up too high, much of the play is lost. By the same token, if the machine is too level, the play doesn't really offer what it could. For the most part, it's an open field and the only real problem is maxing out on the multiplier and the zodiac targets and copping the specials and extra balls and then being left with only spinner shots and that lone drop target bank with its variable values. Somehow it would have been better if the game couldn't get maxed, but then this is a problem shared by all the manufacturers to some extent.

RATING: ###¼

Bally's VIKING

The new game comes from Bally, and the looks are a bit of this and that from the past with some new additions that make this period piece artistically better and more dramatic improvement over what has been released of late.

PLAYFIELD: The top begins with a center saucer kick-out hole flanked by a lane at the left (A) and a lane at the right (B). Move down to two thumper bumpers and a left side “bi-directional” kick-out hole, while over at the right is a far side lane and three drop target bank (1-2-3).

There's a center spinner and for balance a roll-over button and post set-up at the left as well as a target just below this. Move farther over to the left and there's the “Valhalla In-line Passage” of drop targets and a rear target for special values and 50,000 points. Meanwhile, the bottom offers a thumper bumper inset into the plastic at either side and leading down to a departure for the bottom of lanes and kickers down to the flippers with the outlanes offers a post at the bottom for bouncing back up to the flipper for a variation on the old *Flip-Flop* and *Quarterback* machines Bally made a few years ago.

ANALYSIS: Well, if you liked *Mata Hari* and *Playboy*, you'll probably like *Viking*, since the basic design of the field and even the shot selections are remarkable similar. Here, there have been some refinements and improvements on the originals with the inclusion of memory sequence drop targets at the right which increase in value up to 10,000 points with the potential of 10X-ing that value when the targets are hit down in order.

The other part of the game is its random use of time (once again, becoming a major factor of pinball). The spinner is locked in on time for getting bonus point values and so is the top left kick-out hole for activating a collect bonus feature when the right side lane is gone through and it's lit, or when the A and B lanes are hit. In addition, a 50,000 point target just below that left side roll-over button and post set up (which offers extra ball and special similar to *Playboy*) is on a timer as was the case on *Space Invaders* with that right side target at mid-field.

The angle for the in-line drops is steep, but it shouldn't be a gimme anyway, and the bottom offers some extra play in trying to keep the ball from draining out, although it has cut down on the roll down to the flippers. **GRAPHICS:** *Viking* is a good-looking game that picks on a workable theme and carries it through with some strong colors on both the backglass and playfield for a very favorable effect, again, away from the space motif. And, as always, the Bally style is bold and realistic, although there isn't as much detail work.

PLAY: The points are on the board in terms of what's possible, but for the most part, your settings are probably going to be a bit lower than on other games. For extra ball areas a 150,000 start is fairly safe and

follow it with 360,000 and 550,000 point levels. On free play you should be alright with increases of about 100,000 to 150,000 for each limit. PROS & CONS: All the things that were the case with its predecessor are the case with *Viking*. There are some incredible drains from the center saucer on through the spinner and down past the flippers. A check of the kick-out hole for the direction the ball is going is very important. The bi-directional kick-out hole is novel but a waste of energy for the ball being sent back down to the field rather than up and over, while the roll-down from the left side in-lines can also be a real killer.

The use of the memory sequence targets is super and is maximized nicely with the bonus value on the incremental build-ups. And the bottom is okay, although I've never liked a physically-demanding feature like this on pins, because some places keep such stiff tilts on their games. But the drains are incredible on this game where the gap between the flippers seem like a gulf. However, it's nice to see something different from *Mystic* and a few others, and this is a better game for Bally, though dulled a bit by the familiarity of games so recently past.

RATING: ##¾

This has been a look at some of the newer games around and an indication of where the industry is going with its use of time, timers, etc. Next month some more biggies hit the scene as we ready for the AMOA. It will be preview time for what to expect from all the companies, plus some extra surprises regarding pinball in general. Everyone seems to be pulling out all stops and there are some machines to be reckoned with on the horizon. Also from this writer, my annual look at Chicago and some things to do, places to go, and how to survive your weekend visit.

A reminder here to those wanting my "*Pinball!*" book. Soft cover copies are still available for the holiday season. Autographed and mailed to you directly, all that's needed is a check or money order for \$8 complete to my attention at 250 West 27th Street, Apt. 5-C, New York, NY 10001 and I'll see that you get it right away. And until next time and some discussions about the Bulls with their addition of Larry Kenon; the beautiful Bears and Black Hawks....Be well and prosper. •

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Reflex action

An intriguing new solid state counter-top game is being marketed by U.S. Billiards. The compact *React* challenges players to measure their reaction response level at five tries for 25 cents.

When the quarter is inserted, the player waits until the *React's* LED numbers appear on the display. The button is pushed immediately to stop the number, which begins from zero and runs in thousandths of a second to time the reaction ability. The player is led to try to beat his own score or to be the fastest at the counter on *React*.

After five tries, the player's five scores in thousandths of a second are added and displayed as final score. If a player jumps too soon to push the button before the LED numbers roll, the game is invalidated. As much as 10 seconds may pass before a number comes up, cueing the player to push.

Where legal, a location can offer a prize for the best score in the house in a given period. U.S. Billiards will make available a promotion package of tent cards and a master score sheet for registering the best scores of the week.

NSM phono

Prestige ES II 160 from NSM offers a blend of modern and classical lines, plus partial visibility of the phono-graph mechanism.

The 160-selection, EA-ROM memory stores program information. Pricing and credit program, as well as the cash hold, remain in the memory.

Pricing ranges can be varied by selector buttons. Most and least played records are shown on the LED display. The most-played records are shown as "Top 9" on the display. Cash and pricing information can only be read through knowledge of the code number of each phono-graph. Automatic random play of a top record can be programmed. A "hit" will then be played automatically in sequences of 15 to 105 minutes after the last record played.

Dimensions of the *Prestige ES II 160*: height—128 cm; width—90 cm; depth—64 cm; and weight—100 kg.



Rounding third and heading for home

"Our new *Extra Bases* cocktail model baseball game creates extra opportunities for operators," says Stan Jarocki, Midway's vice president of marketing. "its attractive style and compact size opens doors to new types of locations like fast food restaurants, clubs, and lounges. And it's a great producer of extra earnings for regular arcades and game rooms."

This sit-down style provides added comfort and encourages more play action in places where "waiting-to-be-served time" is made more profitable for location owners. Just like its big brother—the standard arcade upright—Midway's cocktail table style *Extra Bases* is a fast action 1 or 2 player "flip-flop" screen video game with the realism and excitement of America's favorite pastime.

It features a colorful playfield, controlled pitching, continued running for extra bases, fielding, scoring, crowd cheers, exploding home run sounds—everything just like at the ball park. The screen displays score, innings, balls, strikes, and outs.

One or two players can play the first full inning for a single 25 cent coin—two additional innings for subsequent single coins. Midway announced a special bonus SBA \$1 coin kit is being made available that enables one or two players to play a full nine innings.

Extra Bases cocktail table model measures: height—29" (74 cm); width—22" (56 cm); and depth—32" (81 cm).

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Rock-Ola's latest

Grand Salon II, the new furniture-styled 160-selection console phonograph from Rock-Ola, has received a favorable reception from operators across the nation, according to Dr. David R. Rockola, senior vice president.

Three time-proven features insure *Grand Salon's* added plays and profits: First is the Top 3 Location Hits feature, which posts the three top hits of the location on an immediate basis and assures the new customer that he will make popular selections. It also challenges steady customers to push their favorites into the top three.

Grand Salon, to stimulate business, may randomly select and play a complimentary record, or it may flash a soft pulsating light indicating that special pricing is in effect for a limited time. The frequency for each of these two features is controlled by the operator.

The cabinet material, although it appears to be crafted from selected dark rosewood, is actually an "abuse-proof" polyester that resists scratches, burns, and alcoholic beverages.

Even the cathedral styled speaker openings have special protection. The grilles are heavy molded laminates that give on impact, then spring back to their original shape. Special care is taken in the design of the four speakers to obtain maximum balance of base, mid-range, and high response. Added stereophonic presence is created by the speaker placement at the extremes of the exceptionally wide console cabinet.

As with other Rock-Ola phonographs sold in the continental United States, the *Grand Salon II* carries a seven-year warranty.

Backtalking pinball

Stern Electronics, Inc. announced production of its first "talking" pinball machine—*Flight 2000*, a new entry in the popular wide-body pinball game market. The solid state four-player game was to be distributed worldwide in mid-September.

Designed by pinball pioneer Harry Williams, *Flight 2000* says "Blast-off" when those target letters are hit—and activates the "multiple-ball rocket launcher" that releases three balls simultaneously on the playfield. To the expert player, the machine will respond "All systems go," and "Countdown: 5-4-3-2-1" in computer voice.

Flight 2000, another space fantasy theme game from Stern boasts a colorful "futuristic" backglass, illuminated by a multi-color display of flashing lights when the "Blast-off" target is activated.

The game combines the latest pinball technology with a number of new playfield features created by Stern. Scoring features include: —"Multiple ball rocket launcher"—the first Stern game to accumulate three balls on the playfield and launch simultaneously when the player makes "Blast-off."

—First Stern game with 50,000-point skill shot target-bank. The player earns 50,000 points when all three targets in the drop bank are hit at once.

—Multiple value spinner: Enables players to gain up to 2,500 extra points in increments of 500.



The Eagle has landed

Eagle, an upright, 19-inch color-monitor "space fantasy," is the latest release from Centuri, Inc.

The player is put in a fight for survival and must defend himself with multi-stage missiles against the attacking space war birds.

During the game, the player also has a chance to link up his spacecraft with the mother ship during a space docking maneuver.

The new video will also be available in a smaller "cabaret" size model.

For more details of the introduction of *Eagle*, see the related story in the Distributing section, this issue.





A game for Magical Dick and Magical Jane

Magical Spot by Universal USA, now being shipped to distributors, has "Mothra," a distant planet, rapidly taking over the earth.

Mothra attacks earth, releasing its army of invading insects that grow as they descend on the screen, moving from spot to spot. The earth defense is to destroy them before they land.

But one direct hit will not destroy the scorpion-like creatures. If wounded, they change colors and regenerate into "full-grown Larva."

If the Larva can land without destroying the player's defense, they will form cocoons—which, when seven are linked together, will swoop into the sky and turn into "Ultra-moths" which relentlessly attack.

Magical Spot is available in full-color upright and cocktail tables from all Universal USA distributors. Among operator options are the factory-set five ships, bonus ship at 2000 points, and game at 5000.



From Northlake With Love

James Bond, Gottlieb's innovative pinball which introduces the element of time into flipper play, has been released for October domestic production, according to the company's Marketing Vice President George R. Simkowski.

"*James Bond* is Gottlieb's new time machine," said Simkowski in detailing the features of the new equipment, "and beating the clock adds fantastically exciting new dimension to the industry's basic game. Further, it's not a three-ball or five-ball—the player can shoot a virtually unlimited number of balls in relation to his skill, still keeping the time span of the game within relatively economical sound limits.

"The celebrity theme of the game has been an attention-getter during the game's test period. The character 007 relates in the public consciousness to fast action and great excitement—the perfect tie-in for a game of this character," he said.

At the start of the game, each player is allotted 50 time units for play—not seconds—which tick away as play continues, and the game ends when the timer runs out. No longer limited to a number of balls, the player uses skill to add more time units as he builds high scores.

A countdown of the timer starts as soon as the first drop target or rollover is scored. Completing any target bank or rollover series stops the timer and adds three time units, and completing all banks with one ball activates a 10 time-unit bonus feature. A special target lights when the timer reaches zero, signaling "sudden death" play which gives the player the opportunity of adding an additional 20 time units in a brief period.

Robert W. Bloom, Gottlieb's president, also pointed out that *James Bond* provides the games operator with an opportunity to improve his profit picture in another way—the reduction or elimination of excessive free play.

James Bond, Gottlieb's third Star Series 80 game, is currently on display at Gottlieb distributorships.

The universal game of poker

Williams Electronics, Inc. will introduce at the AMOA Show a pinball game of poker playing against the *Alien Poker* scoring challenge. *Alien Poker*, Williams' first seven-digit score, talking pingame encourages scoring into the millions.

On the center Royal Flush drop targets, dropping the ten, jack, queen, king, and ace in sequence collects the Royal Flush Jackpot which starts at 100,000. Hitting any target *out of sequence* lowers the jackpot value by 20,000 and the target resets. There are two ways to raise the jackpot to its original level by increments: hit the drop targets ball in the Ace of Spades eject hole.

Williams' exclusive Lane Change feature moves lights on lit lanes to unlit lanes by manipulation of the right flipper.

As the ball drains, only the targets *not* previously hit in sequence are carried over in memory from ball to ball for each player, and the Royal Flush Jackpot automatically starts at the 100,000-point level on a new ball—an optional feature.

Making all three Ace eject holes—Spades, Hearts, and Clubs—lights in sequence P-O-K-E-R. When the *K* is lit, two eject holes light for extra ball. When *R* is lit, the two outlanes alternate for Special.

Alien Poker offers a total of three flippers. The two right-side flippers feature Williams' exclusive dual-action and can be individually controlled. Pushing the right flipper button halfway in activates the bottom right flipper only; activating the flipper button all the way in activates both right flippers.

Speech from *Alien Poker* includes three individual alien voices which tell players: "Raise Jackpot;" "I Deal Joker;" "I Fold, You Win;" and humorous random "remarks." French "speech" is optional.

The *Alien Poker* backglass depicts the advanced humanoid aliens who will control future universes, playing poker for stakes that will decide the control and fate of worlds.



Mini Myte

Midway's *Space Encounters*—an exciting space battle video game that intrigues players—is the first to be available in the new *Mini-Myte* style.

The challenge of *Space Encounters* is to guide an Assault Ship and score points by destroying alien space ships, dodging enemy fire and avoiding contact with Space Channel walls. It requires skill, agility, and concentration and is stimulating fun for players of all ages.

The new *Mini-Mite* cabinet styling opens up a whole new world of locations to capture a new and wider range of players," said Stan Jarocki, vice president of marketing for Midway Manufacturing.

The *Mini-Myte* measures 19½" wide, 24" deep, and 58½" high. "It's a low profile unit with great profit potential." This attractive, compact size is made for locations where space is limited. Ideal for theater and hotel lobbies, retail and convenience stores, smaller lounges, clubs, waiting rooms, transportation centers—anywhere to entertain and occupy customers during waiting time.

Compared to standard arcade models that usually require at least 6½ square feet of floor space, the *Mini-Myte* takes up just 3¼ square feet of floor space. An important consideration to existing game rooms and locations is that three *Mini-Mytes* can be placed in the space of two standard models to produce one third more play-action and income, said Jarocki.

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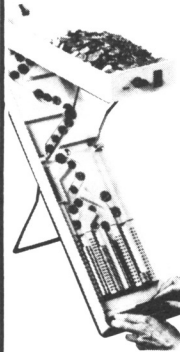
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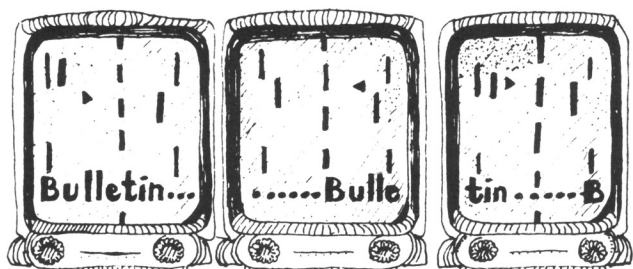
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NEWS BRIEFS

.....The AMOA has broken all ties with a television producer who staged the 1979 Annual Jukebox Awards NBC-TV show. The Awards Committee recently notified members that the producer wanted "a number of changes" in the 1980 awards presentation which "were not in the best interest of the Association or the industry as a whole" and would alter the event "beyond recognition." The AMOA will carry out the awards program as before the arrangement with the producer and has no connection with a survey sent out by the producer last summer. Ballots for the Jukebox Awards were in the mail from AMOA in September. The survey will be included in the next Play Meter UPDATE EDITION

.....After a resolution condemning the introduction of coin-operated gambling devices into illegal areas was passed by the Illinois Coin Machine Operators Association, it was reported that Illinois law enforcement authorities began an investigation of illegal gaming machines. Search warrants were served in at least 14 Illinois counties, and state's attorneys considered bringing prosecution. The ICMOA's resolution also called for regulation of the number of free plays or credits on any coin-operated device, to limit these to "a number no larger than can reasonably be played off in the course of play on the device."....

.....Plans are in the making for a larger and improved Amusement Operators Expo for the event's second opening, March 12-14, 1981 in New Orleans' Hyatt Regency Hotel. The Expo will introduce special exhibitor-sponsored seminar/workshops. Each exhibitor will have the opportunity to present a session of his choice, without editorial restrictions. These workshop/seminars will be offered free to all Amusement Operators Expo '81 attendees. For reservation of exhibit space, contact Tony Scalisi at Conference Management, Stamford, Connecticut: 203/356-1900.....

....Reports are that in Buffalo, New York, space action games were recently banned—at least temporarily. The chief of police had questioned their legality and said their abolition was a strike against organized crime. The move was reportedly rescinded. Details upcoming in PLAY METER

.....The state of North Carolina has amended its laws covering coin-operated gambling machines to permit collectors to own antique slots—those at least 25 years old.....

.....Sunday racing may become legal in New Jersey next year. A measure for seven-day racing will be on the November 4 ballot for voters to consider. Observers expect approval.....

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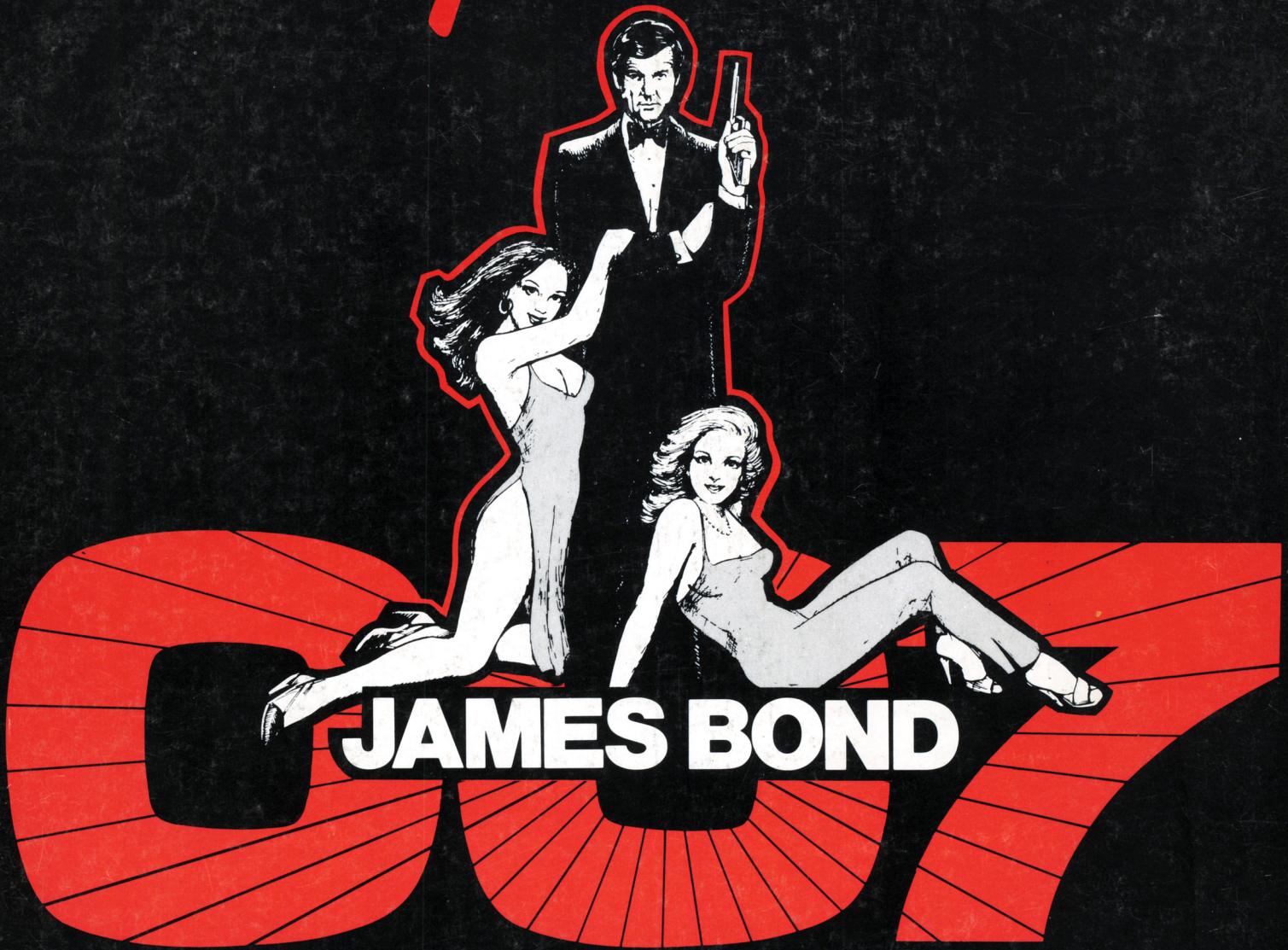
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