THE FLIPSIDE

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SPECIAL WHEN LIT

The summer will be over when this issue of **THE FLIPSIDE** arrives at your mailbox. Personally I am very sad to see the daylight hours get shorter. While I still get about two hours of pinball enjoyment every day, the world of golf entered my life and between these two activities the summer just went by all too fast.

Enough about sadness because this issue of **THE FLIPSIDE** is really something to celebrate. Our main feature, an in-depth interview with Steve Ritchie, is a great thrill for us to present to you. I believe that Steve is the modern day Harry Williams and Steve Kordek rolled into one. His breakthrough use of the new computer technologies of the late seventies led pinball design in a totally new direction. Steve has consistently created games that not only excite the players of all skill levels, but challenge us to greater playing highness. I hope our readers will enjoy this piece and respond to it by writing the magazine with your comments. I would also like to thank Steve Baumgarten, Rob Rosenhouse, Steve Schwartz, Steve Zamonski and Sean Grant for their reviews. Please contact us if you are interested in presenting a game review, new or old.

I would also like to hear from you on any other pinball matters. Are you interested in setting up league play in your area? Let us know and we will try to help get you started. I have recently gotten on line and my e-mail address is Epstein4@aol.com. I am slowly getting up to speed and eagerly await an involvement in the world of the cyber pinball. We need your input to really have a chance to grow and become the truly interactive pinball players' voice that I originally envisioned when I embarked on creating **THE FLIPSIDE**.

Right now the pinball industry is in real trouble. The sale of new machines is at an all time low, operators are moving away from this form of entertainment, the options of new technology looms on the hoirzon. I, as a player, believe that pinball is a unique form of entertainment that cannot be replaced. I look forward to playing each day. The players and fans of pinball may be shrinking, but new players and ones from the past can be brought back to play. I leave you with the challenge of making this happen. Write and let us know how you feel this can best be accomplished.

Steve Epstein

THE WRITE STUFF

Dear **FLIPSIDE**:

Allow me to introduce myself. My name is Martin Boekers. I belong to St. Louis' **SILVER BALL FAN CLUB**. Awhile back we put on our third annual "*PINFEST*", so I thought I'd drop you a line and let you know what's happening on the pinball scene in St. Louis!

We sponsor an annual event called *PINFEST*. This is a pinball tournament held in conjunction with a unique pinball convention. Dealers setup for a 3-day weekend and supply a variety of new and vintage pinball, video, arcade games, etc. All games are set to free play so everyone has the chance to enjoy the variety of games.

We also have a pinball tournament that for a fee players can challenge their skills. The high score for the weekend walks away with the game. This year the game was BAD CATS, a challenging game. The competition was stiff. In the end, John Miller was victorious with 48,986,090 points; 2nd place went to Steve Walker with 40,971,990, 3rd to Dave Hegge with 39,914,110, 4th to Rick Miller with 34,882,190, and 5th to Randall Carter with 29,538,010. Enclosed are some photos of *PINFEST '95*. It would be nice if you could recognize these guys in **THE FLIPSIDE**. *PINFEST* is growing every year as well as our following. The fan club, **SILVER BALL**, sponsors a variety of events for members, such as two pinball scrambles a year where we rent a bus and go to 3 bars to play two games at each (sort of a mini traveling tournament). Everyone has a lot of fun. If any of your readers are interested in future *PINFESTS* or our **SILVER BALL FAN CLUB**, they can contact me at the following:

> Mr. Martin Boekers
> 5508 Newport Ave.
> St. Louis, MO 63116
> Phone: 314-752-4117

If you publish any of this can I get a few copies for the Club and info on subscriptions. Thanks. Also, John Miller has won 1st place all three years of *PINFEST* and is anxious to defend his title next year!

Thanks.

Martin Boekers
St. Louis, MO 63116

Dear Martin:

Thanks for writing to us and keep up the good work, it's what the world of pinball is all about. Your copies of **THE FLIPSIDE** are on their way.

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Left: Scott Walker - 2nd Place   Right: John Miller - 1st Place

MINNESOTA PINBALL TOURNAMENT RESULTS

M.T.A. (Minnesota Tournament Association) sponsored the 1st Annual Minnesota State Pinball Championship at the Classic Cafe & Bar in St. Louis Park, Minnesota on June 9-11, 1995. Theisen Vending Company was the proud host operator for this action packed event.

Entrants from Minnesota, Wisconsin, Illinois, Ohio and North Dakota fiercely competed on thirty-two of the newest pinball releases furnished by Sega, Bally, Williams and Gottlieb in conjunction with their local distributors. Steve Gold, owner of Classic Cafe & Bar, reports this was one of his busiest weekends ever! Camera crews from KMSP and KARE pushed their way through standing room only crowds to televise a portion of the exciting "flippin' competition".

Cash and prizes totaling $3,500 were awarded to ecstatic winners in four divisions. First place winners were:

Open Singles
Dave Hegge - Brookfield, IL

Open Doubles
Paul Madison - Minneapolis, MN
Fred Richardson - Minneapolis, MN

Womens Singles
Teresa Dery - Brooklyn Park, MN

Womens Doubles
Teresa Dery - Brooklyn Park, MN
Yvonne Magnum - New Brighton, MN

Michael Tate, President of M.T.A., was pleased to see the fun and excitement that was generated by this tournament and is looking forward to more pinball competition in the future.

Michael Tate, Teresa Dery, 1st Place Womens Singles, and Tom Thiesen

PLAYING THE FIELD

DIRTY HARRY

By Steven Schwartz
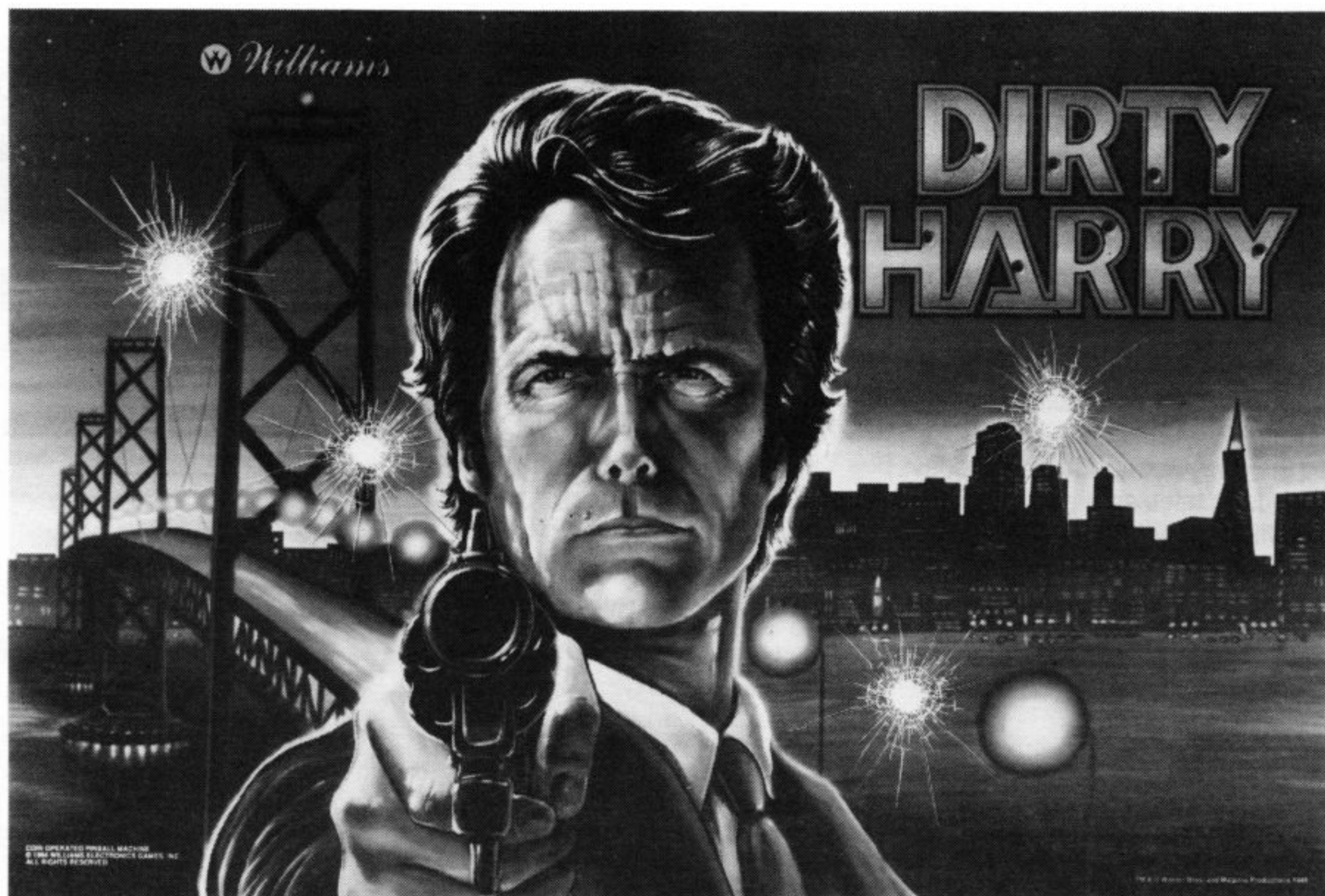
DIRTY HARRY, the Williams 1995 pin loosely based on the classic Clint Eastwood detective character, is a theme machine without a clue. After premiering in the finals rounds at PAPA 5, this pin has won no love from either Eastwood fans or pinball players.

Clint Eastwood was born in 1930 in San Francisco. He has had a remarkably productive career including starring 54 films and directing and producing 18 films. He was also the Mayor of Carmel, California. Eastwood's films have ranged from the Sergio Leone spaghetti westerns through the *Dirty Harry* series to mod-

ern evolved films including *Bird*, I*n The Line of Fire*, and *Unforgiven*.

The Dirty Harry character was developed by Eastwood in several films from the 1970's including *Dirty Harry*, *Magnum Force* and *Enforcer*. Harry Callahan is a plain clothes detective on the San Francisco Police Force. Callahan hates everyone and has little regard for basic human rights or the Constitution of the United States, but he is fearless and cunning in his pursuit of his version of justice. Willing to take risks, Callahan is always getting the toughest assignments.

Callahan will blast a perpetrator. While the perp lies writhing in pain, Callahan

will taunt him, suggesting that he had used all six shots. Most of the time, Callahan will shoot first and ask questions later.

In total contradiction, **DIRTY HARRY**, the pin, is lighthearted, G rated and edgeless. The machine has the usual modes, loops, ramps and targets, each with a theme that is based on an Eastwood movie. In the "Scorpio" mode, you make a series of shots to score points. In *Dirty Harry*, the movie, Scorpio is a psychopathic killer who Callahan tracks while being diverted by both Scorpio's brilliant elusiveness and the protective system of justice.

The pin has two ramps, both essential to play. The right ramp is tough with a sharp turn to the left at the top, but the left ramp is near impossible. The only possible left ramp shot is from the upper right flipper. A magnet can be enabled to slow the ball's travel down the upper right loop to the flipper, but the flipper was never made strong enough, nor the angle of the ramp lowered to enable this shot. The left ramp continues to rise up and through two steep turns without any assistance for the ball.

The other essential game part is a gun similar to that of ST:TNG, located in the lower right playfield and fed from the plunger, a central hole called the warehouse or the left ramp. This gun is used for the initial skill shot to the HQ hole. To make the shot, you must aim the gun directly across the playfield which is never a comfortable shot. At the start of multiball, the gun is loaded for a jackpot up the right ramp or a superjackpot up the left ramp. The gun is not powerful enough to make either of these shots.

Dirty Harry, the movie, is shot in gritty grays or garish colors. The pin is painted in pastels, the playfield dominated by head shots of Eastwood in various roles. The movie had an excellent soundtrack, ranging from cool jazz to funk and scored by Lalo Schifrin. The pin has MOR elevator music. The one place the pin did well was with the voices, a nice blend of actual Eastwood and other actors. The voices guide and taunt and are well integrated with game play.

Some games, like the ADDAMS FAMILY, are so evolved and integrated in terms of graphics, sound, theme and gameplay, that it is clear that the designers fell in love with them. **DIRTY HARRY** feels like an afterthought, a game that was on the boards for too long with no clear direction. The theme is mushy, the gameplay is boring.

A strong theme could have been developed on Eastwood, the renaissance man, or on Dirty Harry, the complex man. Neither theme would be G-rated but would celebrate the victories and failures of the journey through life.

A strong theme could also have been developed on the movie, with emphasis on San Francisco, the Bay Bridge, Coit Tower, Chinatown and North Beach. That theme would have had hookers and pimps, bad guys and politicians, arsenals of guns, drugs, and cash. The usual, but with emphasis on gun shooting opportunities, especially from the player's point of view. Of course, a shooting video mode, of which this game has none, has already been used in other games like JURASSIC PARK and STREET FIGHTER II.

Which leads us to gameplay. Pinball gameplay seems to be speeding up with more and more multiple ramp and loop shots, like in TOM or NO FEAR. **DIRTY HARRY** was designed so that there is no game flow for combo shots or continuous loops. Almost every shot ends with the ball being upkicked, dropped into the jets or holed for the next shot. This creates a lag between shots and interrupts the flow of the game. Gameplay should flow, smoothly and integrated with the theme.

If I could have made one change, it would have been to move the gun to the lower playfield, behind the flippers, fed by a single loop, and used throughout the game, sometimes autofiring at a "learned" target (like the TAF artificially intelligent upper left flipper) to speed up the game.

DIRTY HARRY, the pin, is gone and forgotten at the Broadway Arcade. Replacing it are machines that are more interesting to play and thematically more complex. Surviving it are older games, loved by players, like TAF. **DIRTY HARRY** got no love.

DIRTY HARRY RULES

SKILL SHOT: Watch display for three possible skill shot choices. They are Ramp Shot, Load Gun, and a random award. Pull trigger to make your selection.

RAMP SHOT: The Magna-Force magnet grabs the ball and releases it for a flipper skill shot at the left ramp for points.

LOAD GUN: Loads the gun, enabling a gun skill shot. Pull the trigger again and fire the ball at the flashing shot on the playfield. A completed shot awards points and starts a Shotgun Shell award.

RANDOM AWARD: Pulling the trigger when the third award is displayed will give the player that award, and launch the ball into the jet bumpers.

MULTIBALL: Collecting the five flashing Badges on the playfield lights START MULTIBALL on the left ramp and at the Warehouse. Starting multiball on the left ramp increases the base JACKPOT VALUE. To start multiball, the player is given a chance at an INSTANT JACKPOT with a shot from the gun. Once shot, MULTIBALL commences. The left ramp is SUPER JACKPOT (2X current JACKPOT VALUE), the right ramp is JACKPOT. The Safehouse increases the JACKPOT VALUE and the Warehouse relights the right ramp for jackpots.

LANES AND BUMPERS: Completing the lanes alternately increases the jet value, and multiplies the current RANSOM value which gets built by the bumpers. Rolling over the right return lane lights the RANSOM shot at the HQ hole on the left side of the playfield for a short period of time. RANSOM can also be multiplied by combo shots that feed the right flipper.

BULLET TARGETS: Completing the BULLET TARGETS advances the MAGAZINE awards above the left flipper. Shooting the Warehouse collects the lowest flashing award on the MAGAZINE. The awards are:

MAGNUM JETS: The jet value is increased to maximum, and is worth millions per hit.

MAGNUM BULLETS: The BULLET TARGETS are now worth millions per hit.

LIGHT EXTRA BALL: The EXTRA BALL is now lit at the HQ hole.

LIGHT SHOOT-OUT: The exit lanes are now lit. If the ball drains down the lit exit lane, it is loaded into the gun for a shot at BIG POINTS, and if successful, a SPECIAL.

PLAYFIELD PROMOTION: All scores are multiplied by 2X, 3X, 4X, or 5X for a short period of time. The multiplier is based on the player's current RANK, which he has earned by shooting the left ramp.

RIGHT LOOP: Feeds the lanes and the bumpers normally. If the left return lane is rolled over, MAGNA FORCE becomes lit for a short period of time, which grabs the ball, and releases it, giving the player a slow feed to the left ramp.

RIGHT RAMP: Shooting the right ramp collects HELICOPTERS. At 'X' helicopters, FEEL LUCKY becomes lit at the Warehouse. Also shooting two right ramps consecutively diverts the ball to the right flipper and lights RICOCHET on the left loop for a short period of time. RICOCHETS increase with each one completed, and are reset at each new ball.

THE WAREHOUSE: Shooting the Warehouse will lower the drop target for a short period of time. Shooting it again before the drop target raises will award the player with a CONTRABAND item.

When lit, the Warehouse will collect MAGAZINE awards.

When FEEL LUCKY is lit, the player will be given a choice between collecting points, or the opportunity to use the gun to shoot for features (bonus X, extra ball, etc.). Hitting the left flipper will award the points and put the ball back into play. Hitting the right flipper loads the gun and starts flashing a bullet. Pull the trigger to shoot at the flashing target. A completed shot will award the feature.

LEFT RAMP: Shooting the left ramp builds up to promotions, which increases your RANK. Your rank is award in bonus count, and determines what multiplier the player's Playfield Promotion is set at. At Chief, the player starts Super Chief mode. Advancing rank lights Safehouse award.

THE SAFEHOUSE: Shooting the Safehouse, when lit, awards a Safehouse Feature. The features are:

BANK ROBBER HURRY-UP: A hurry-up that can be collected on the left loop.

WAREHOUSE HURRY-UP: Shoot the Warehouse before the hurry-up finishes and the player is awarded with a two-ball multiball where the jackpot shot is the Warehouse and the Jackpot is the hurry-up score.

LIGHT EXTRA BALL: Lights the extra ball at the HQ hole.

SUPER LOOPS: The outer loops are lit for a short period of time. Make the loops to restart the timer and the loop value increases.

ALCATRAZ: A four-ball multiball.

LEFT LOOP: Feeds the upper flipper for a left ramp shot. Also, when lit, collect the BANK ROBBER HURRY-UP value, and RICOCHET.

THE HQ HOLE: When RANSOM is lit, collects the Ransom value multiplied by whatever current multiplier affects it. It also collects Extra Balls when lit. When HQ light is lit, it starts the current flashing SHOTGUN SHELL mode. The modes are:

BARROOM BRAWL: Shoot both ramps for a limited amount of time. The left ramp is worth twice as much as the right ramp.

CAR CHASE: Shoot both loops and the left ramp. The player has a limited amount of time to make four of any combinations of these shots for an added finishing bonus.

WAREHOUSE RAID: Shoot the Warehouse for increasing score values and to collect Contraband items for a limited amount of time.

LETTER BOMB: Hit thirty targets before time expires.

MEET THE MOB: Both ramps and both loops are lit. Shoot all four shoots before time expires.

STOP SCORPIO: Two of the CROSSHAIR shots are lit. Make one before time runs out, and that one is collected, and another crosshair starts timing down. The Safehouse adds more Crosshair shots. Shooting HQ shot ends the mode (as does all the crosshair shots timing out), and awards points based on how many Scorpio shots the player has made.

CRIME WAVE: Once all of the above modes have been completed, the player can enter the Crime Wave, where all the shots are lit for big points. The player can play unlimited autofeed multiball action for a limited amount of time.

Once a mode has been played, the player must relight the HQ light by shooting either of the outer loops.

POLICE LINE

PLAYFIELD PROMOTION

LITE SHOOT OUT

LITE EXTRA BALL

MAGNUM BULLETS

MAGNUM JETS

COMPLETE BULLETS TO ADVANCE MAGAZINE

STOP SCORPIO

MEET THE MOB

LETTER BOMB

WAREHOUSE RAID

CAR CHASE

BODY ARMOR

BARROOM BRAWL

SHOOT AGAIN

Williams

DIRTY HARRY

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PLAYING THE FIELD

MARY SHELLEY'S FRANKENSTEIN

By Sean Joseph Grant

I was lucky enough to play the whitewood model of Sega's latest machine, **FRANKENSTEIN**, when I went to Chicago for last year's Pinball Expo. Sega had already completed the art and sound package by the time of the Expo, but the organizers of the Expo thought that it would be interesting for people to see what a whitewood was like. For those pinball fans that are unfamiliar with the term, a whitewood is a prototype machine with a preliminary playfield design and no playfield art. The construction of a whitewood model is a step towards the final manufacture of a pinball machine. The different playfield features are tested; the whitewood model providing a lot more information of how the machine plays than any type of computer simulation. One notable change between the whitewood and the production model was that the ramp was made less steep.

The whitewood of **FRANKENSTEIN** drew a great deal of attention at the Expo despite the fact that it was running on software which was threadbare compared to the actual release version. The music, the monster, and the novelty of playing on a machine that was as yet unreleased was the main draw. At the same time, however, I believe that there was a general feeling that this machine was going to be a huge success. Combine a horror movie license with a gripping soundtrack, a well structured playfield and a strong rule set and you usually have a winner on your hands. Such is the case with **FRANKENSTEIN**.

FRANKENSTEIN's strengths are in its playfield layout, art and sound packages and exciting multiball play. There has never been a machine with such

beautiful art or audio. Paul Faris' artwork is breathtaking, on the backglass, playfield and cabinet.

The larger dot matrix display which was debuted in MAVERICK is put to much better use here, with digitized images from the movie, and clear, often graphic homemade screens.

Brian Schmidt's rendition of Edgar Winter's *FRANKENSTEIN* and my personal favorite, the Original Motion Picture Soundtrack, will stick in your head for days after you hear them for the first time. The player selects between the two background music options at the start of the game.

SKILL SHOT:
The skill shot is not difficult, as long as you are ready to start the next ball right after the previous one drained. A spark of electricity moves up a meter on the dot matrix, the highest reading equaling 20M. The ball is launched by shifting the position of a lever which is in the place of a manual plunger. "Throwing the switch" launches the ball and awards whatever value the spark is on, on the meter. It begins by moving straight up the meter making the 20M a simple matter of timing, but if you wait until after it reaches 20M, it is substantially more difficult because the spark then moves randomly about the meter. This is presumably to keep the games moving between balls.

MODES:
Modes are initiated by completing all of the FRANKENSTEIN stand-up targets located throughout the playfield. These twelve targets offer a variety of shots for the player to aim for, or can be spotted by shooting the Ice Cave (two letters unless the mystery award gives three), Sarcophagus (two letters when lit, one when unlit) or the North Pole (one letter normally, two when hit in a combo with the left inlane). The flashing mode is the one that will be awarded the next time that Frankenstein is completed. The flashing mode is rotated once clockwise by the Change Feature standup target located just below the Sarcophagus. The modes are as follows in clockwise order:

FRANKENSTEIN MILLIONS:
A round in which scoring the first six

Frankenstein letters awards 6M each, the next three 8M, and 10M thereafter. This is a timed round which lasts thirty seconds. The letters can be spotted by the normal spotting shots and the letters cannot be rescored until all of FRANKENSTEIN is completed. This is usually a good round to get because you can be sure that you will score a couple of letters unless you drain right away. It was smart for the design team to put this as the first and therefore most likely scored mode, because it is a good mode for beginners to rack up some points.

STONING:
A frenzy round where all hits score an incrementing value which starts at 250K and moves up by 250K after a given number of hits. This is the weakest scoring mode unless the bumpers are live. The bumper area is also one of the danger zones of the playfield so it's usually smart to just work toward multiball or even drain the last few seconds out so that Frankenstein letters can be scored toward the next mode.

CREATURE FEATURE:
The ramp is lit for a letter in Creature and a jackpot which starts at 20M and increases by 10M each time the ramp is scored. The ramp located at the upper right of the playfield is steep but feeds itself, making consecutive shots possible. The ramp is easier to make on a consecutive shot because the momentum of the inlane feed is preserved. The ramp can be a challenge to make, but is vital to scoring in this game. If the player gets hot on the ramp shot, this can be an excellent scoring mode, however my experience is that the combination of the nerve-racking music (which is my favorite music in the game) and the pressure of knowing you have a limited time to score extra points on a shot you'd want to make to light multiball anyway, makes this a difficult mode to score on. The important thing is not to rush your shot at the ramp and to get into a rhythm so that you can make the consecutive shots.

LYNCH JUSTINE:
This mode lites the left orbit for three successive hurry-up awards. The initial value is 50M and counts down shortly after the mode begins, yet if the shot is scored, the next shot starts with a value 10M

more than the value scored by the previous shot. It can therefore be a mode definitely worth shooting for, especially since you can follow up the shot with a sarcophagus combo or a pop into the Ice Cave to relight the kickback if you don't have it. The main problem with the mode is the risk you incur by shooting for the left orbit, because if you miss, you are sending the ball into the bumpers, thus losing a large amount of control. The best strategy is to aim for it initially to try to get a huge amount of points with a few quick shots, but if the value drops down too low, to just let the mode run out.

NORTH POLE:
Another hurry-up, only this time the award can be scored only once. It starts at 100M and decreases by 5M, so it can be worth a ton if you can score it early. Another advantage is the fact that if you make the shots, you also get a letter in Creation which builds the value of Creation Multiball, the mode you go into if you are able to complete all of the modes. Creation letters are awarded if the player is able to complete a mode entirely. Thus, it is easy to do with the North Pole round, since it's a one shot round.

LITE EXTRA BALL:
An extra ball is awarded if you shoot the North Pole. A Creation letter is awarded as soon as the extra ball is lit.

VOLTAGE MODE:
Jackpots are lit one at a time in this mode, with the next one lit after the previous one is scored. It follows this pattern: Left Ramp, North Pole, Left Orbit and then Ice Cave. It is possible to make a super combo out of it, getting all four jackpots plus the Creation letter!

GRAVEYARD:
The Graveyard round is the best all-around scoring mode. The player tries to assemble the Creature by shooting for the saucers and scoops. The Geneva scoop awards the arms, the Sarcophagus awards the legs, the North Pole gives the head and the Ice Cave awards the chest. Each body part is worth 30M, and there is a score bonus if the player is able to complete the entire body, in addition to the Creation letter. If you are able to complete the Creature, you will also see a neat animation for your effort.

MULTIBALL ROUNDS: FRANKENSTEIN features two Multiball rounds, which are good for different reasons. Geneva Multiball is initially easy to get, yet does not score very well, while Creature Multiball is a great deal more lucrative but requires a few steps to initiate.

GENEVA MULTIBALL: Shooting the Geneva shot is the easiest shot to make in the game, since it is near the flippers and can be made with either flipper. Depending upon the way the ball is ejected, the shot can be made successively, which makes the shot one that can be taken advantage of, however, doing this can be one of the most boring ways to score a lot of points in any pinball machine, and is really corny, so I wouldn't recommend it. This wouldn't be a problem at all, if the shot didn't award 2M every time you made it. You can't start Geneva Multiball this way, you have to relight the Geneva shot by shooting the Ingolstadt spinner/orbit shot on the right, or you can shoot the Geneva scoop after the ball rolls through the right inlane. The yellow light will indicate whether or not a shot into the scoop will award a letter.

Once Geneva is spelled out, you see a nifty animation and two balls are auto-launched. All of the jackpots are lit for the Geneva value which is 20M plus 1M for every time the Geneva scoop was shot when it was not lit for a letter. This, unfortunately, never adds up to all that much even if you get all four jackpots. The biggest problem with this Multiball is that there is no Super Jackpot or upper level award for completing all of the Jackpots, the Geneva scoop is lit to relight all of the Jackpots once they have all been scored.

C R E A T U R E
MULTIBALL: Performing well in Creature Multiball is the central goal for a player wanting to get a big score in **FRANKENSTEIN**. The North Pole is lit to start Creature Two-Ball after the required number of ramp shots are made and the player shoots the North Pole. The required number of ramp shots starts at three and then varies depending upon whether or not the player was able to get into Creature Multiball from Creature Two-Ball. Once the North Pole is made, (the left orbit will also start it the first time you get it in a game), a second ball is autofired and Creature Two Ball begins. The player's goal is to lock both of the balls in order to start Creature Multiball. The player must lock the first ball in the North Pole and the second ball in either the Sarcophagus, the North Pole, or the Geneva scoop. The faster the second ball is locked, the more balls that will be in Creature Multiball (3 - 6). The best strategy is to hold a ball with the right flipper and try to shoot the North Pole with the left, because if successful you are set up for an easy second shot into the Geneva scoop with the ball you have trapped. Once Creature Multiball begins (after an animation which never fails to pump me up), two jackpots are lit, initially at the ramp and the left orbit, with the change scene shot below the Sarcophagus switching the location. If both Jackpots are scored, the Sarcophagus is lit for the Creature Jackpot, provided that Frankenstein has been spelled out during the multiball. If not, you have to complete it before the Creature Jackpot lights. If the Creature Jackpot is hit (usually for around 100M), a Super Jackpot begins to move around the Jackpot shots from left to right, stopping at each one for around five seconds each. The best way to score this is to trap the balls, with all at one flipper and one on the other and then to just wait for the easiest shot to be lit for the flipper which has only one ball. Usually I find the ramp and the orbit to be the two easiest shots so those are my choices. The jackpots will move whether or not switches are triggered so just wait for your shot.

TOURNAMENT PLAY - **FRANKENSTEIN** can be an easy game, especially if you get the timing down for the right ramp to light Creature Two Ball often. Highlights at PAPA for me was seeing Noel Steere light up the machine for a huge score in the R.G.P. division and seeing Lyman Sheats make ramp after ramp consecutively, lighting Two-Ball even when it took nine ramps to do it. That was inspirational, because usually I would let the huge amounts of ramps that it builds up to, get to me, once I had gone through Multiball a few time, but he just plowed straight through! So many players played **FRANKENSTEIN** for so long in the doubles and championship rounds that it was determined that the outposts had to be moved to the most difficult setting for the finals. Once this adjustment was made, it played very well as a tournament machine.

OVERALL ANALYSIS - **FRANKENSTEIN** is a strong game overall, because of its brilliant sound and art packages as well as for the multitude of shots available. Its greatest shortcomings are the simple to make Geneva scoop which can be exploitable and the fact that the strategy mostly boils down to Creature Multiball when the game is played in tournaments. Sega has definitely proven that its large screen dot matrix display can have a great effect on the overall experience of the game.

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PLAYING THE FIELD

THE SHADOW

By Rob Rosenhouse

There have not been many games that I have been really excited about. Don't misunderstand me, I love the game of pinball, and I think that there have been many fine games made over the last few years. In my opinion, exceptional games produced lately include THE TWILIGHT ZONE (Williams), TOMMY (Data East), and STAR TREK: THE NEXT GENERATION (Williams). I can now add **THE SHADOW** (Bally) to that honored list.

I first played **THE SHADOW** in November, 1994, while attending the Pinball Expo in Chicago. One of the more fun things to do in the Chicago area is to visit the "beta sites" where new games are displayed to the public for the first time. The term "beta site" probably originated in the pinball discussion group on the Internet, and refers to the few locations that play host to the newest in game designs in the suburbs of Chicago. One such site "Galaxy World" usually has the newest game or two from Williams and Sega.

This game did something to me that doesn't happen often enough. I played many hours and then returned to my hotel room. But I could not get the game, or its excellent soundtrack out of my mind. There was something special about this game. I had to go back the next day to play some more. I cannot put my finger on what makes this game so good (if I did, I'd probably be working in Chicago for a pinball manufacturer.) I guess it is the blend of different modes, varied shots, the Battlefield, and the ultra cool ball lock.

The first thing I noticed when I walked up to the game is the extra flipper buttons on the side of the cabinet. These control diverters on the two ramp assemblies on the game. The ramps divide into two paths, one heading left and the other right. Each path goes thru an illumi- nated ring, just like the ring the Shadow character gave to the people he saved. After shooting a ramp once, the player is wise to use the diverter button to aim the ramp at the other ring. One mode, the Vengeance Mode is started after shooting all four rings. You can even begin a Super Vengeance Mode by shooting all four rings in a row, all while controlling the diverters to send the ball to the proper path. The Vengeance mode is timed, and the goal is to, again, make all four ring shots. This will award a bonus, and will restart the mode. Each ramp shot made will also increase the ramp shot value.

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The opening shot is also very appealing. Before shooting the ball with the autoplunger, you can select your reward by aiming the Phurba (ramp diverter) in the appropriate direction. Pointing the ramp to the left awards points (which will increase on subsequent balls), and directing the ball to the right will award features, such as bonus multipliers, extra balls, and locks. I usually opt for the choices on the right.

One thing suspiciously missing from **THE SHADOW**'s playfield is a set of bumpers. I was talking this over with a fellow player, and we came to the conclusion that groups of bumpers just tend to tie the ball up, and that the player is helpless while the ball rebounds in and around the bumper area. I do enjoy bumpers, as a feature, but recent games like **THE SHADOW** and NO FEAR lack these so-called pinball staples. This tends to make for a much faster game. Couple this with the fact that **THE SHADOW** is full of loops and ramps, and you have a speed demon on your hands.

Another feature of **THE SHADOW** is a new way to begin the ultimate goal (or "Wizard Mode") of the game. Just about every game before this would just require you to play all the modes to enable the Wizard Mode. **THE SHADOW** adds a new wrinkle to this scenario. You must complete four individual tasks to enable the goal. Yes, you have to complete all the modes, that's one fourth of it. You also need to complete the Battlefield, play through both Kahn multiball and Shadow multiball. They also use this build-up to the Wizard Bonus on Theater of Magic. I enjoy this build-up very much, as it forces the player to be involved with all facets of the game, rather than just playing certain sections of the playfield.

Modes are started by shooting the saucer toward the top right portion of the game, or the saucer on the left center of the game. There are six different modes. I will briefly describe them now.

PUNISH THE GUILTY:

Shoot the lit arrows and the inner and outer loops to eliminate the gun-toting bad guys, and then shoot the right eject hole to free Tam from his custom made cement shoes.

FARLEY CLAYMORE:

Various shots will be lit on the playfield, and making those shots will drain the "Hit-O'Meter" depicted
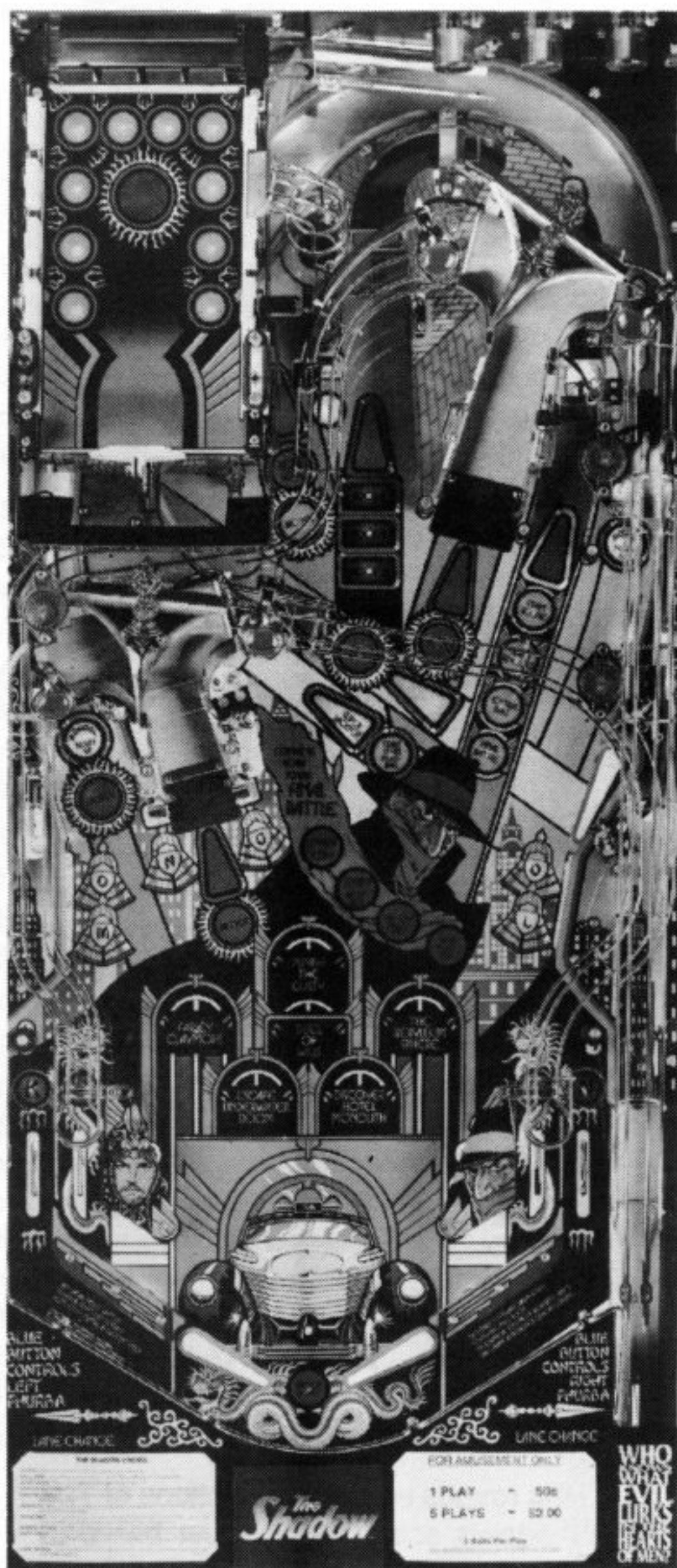
on the dot matrix display. Successfully beating Farley will cause him to jump out of a window.

DUEL OF WILLS:

This is a quick video mode. Here, you have to guide The Shadow left and right with the flipper buttons to avoid the oncoming Phurbas. There are also plaques that represent points and a possible extra ball that you can collect by having The Shadow run over them. One undocumented feature of this round is that you can use the trigger of the gun to deploy a smart bomb which will

eliminate the Phurbas and allow you to collect two or three plaques without worrying about oncoming blades. This mode is completed by either dying (bad thing) or avoiding all the Phurbas (good).

BERYLLIUM SPHERE:

A number of shots will be lit, and hitting each one scores points, and more importantly, cuts a circuit in the Sphere, which is really just a huge bomb. Make all the shots, to cut all the circuits, and save the world from certain destruction.

ESCAPE UNDERWATER DOOM:

Our hero is locked in a room that is quickly filling up with water. Shoot both ramps, and then another ramp, and finally the outer loop to save The Shadow. Scoring goes down as time passes, so you are advised to make those shots early. Use the ramp diverters wisely to set up your next shot.

HOTEL MONOLITH:

This is a two ball multiball round. Shoot the center lock shot to uncloud the Hotel from your mind. Each of three shots reveals more of the hotel, until finally, the hotel door opens. While keeping two balls in play, shoot into the Hotel, and begin the Mongol Attack, where just about every shot lights up for big points. This round ends after one of the two balls drain.

The Battlefield is another unique feature of **THE SHADOW**. This is similar to the Powerfield from THE TWILIGHT ZONE, and plays very much like the classic game of BREAKOUT. To enable the Battlefield, first shoot the yellow drop target that guards it. Then shoot the eject hole to send the ball upward. Now, using the flipper buttons, guide the paddle left or right to keep the ball from exiting the Battlefield. The goal here is to hit a

certain number of targets which will defeat Kahn. Once you reach that threshold, additional hits to the back wall will cause the drop targets to lower, exposing the exit ramp at the top of the field. Break through the drop targets to score the Battlefield Jackpot, and possibly score an extra ball. Additionally, completing all of the lights on the Battlefield will increase the jackpot.

There are two other multiball rounds that need to be completed. The first is Kahn multiball. This is started from the middle left eject hold when lit. To light it, just complete K-H-A-N in the return lanes, and the Kahn multiball will come on, either "permanently", or for a timed period. Shoot the lit saucer to begin Kahn multiball. This is a three ball multiball round involving five different jackpot shots. While playing this round, locking a ball in either left or right eject hole will double the next jackpot for a short period. Locking a ball in both holes will triple the next jackpot. Nailing all five jackpots will light the roving jackpot up on the Battlefield. Shoot a ball into the Battlefield, while juggling the others on the regular playfield, and manage to strike the lit target to score the Super Jackpot.

The other multiball is the Shadow Multiball. To light the lock, you have to hit the Hotel Wall target, in the middle of the playfield, near the top. Once lit, you enable a lock that has to be seen to be believed. Strike the wall again, and a magnet grabs the ball, the wall drops,

revealing the lock, then in a single swift action, the magnet momentarily drops the ball, and then energizes again, propelling the ball around the bend to the lock mechanism. This has got to be one of the coolest things I have ever seen a pinball game do.

Repeat the lock two more times, and the Shadow multiball will begin. Here a ball is sent to the upper right flipper for a jackpot opportunity around the left inner loop. Since this is a loop, you can repeat this for the remaining jackpots. The neat thing about this, is that when multiball initially begins, one ball is served to the flipper, and as long as you are repeating loops and scoring jackpots, the game will not release additional balls. But blow the shot and the next ball will be released. The same rules apply about scoring double and triple jackpots, as with Khan multiball. If you manage to score 5 jackpots, you then light the Super Jackpot at the left eject hole.

That rounds up the four sections of The Shadow's scarf, which must be completed to begin the Final Battle. Now, just shoot either eject hole to begin this Super Mode. Similar in concept to INDIANA JONES, you have to hit all 27 illuminated shots, including all lights on the Battlefield with the five balls provided. You will have the benefit of a ball saver for the first thirty seconds of this round. Each shot scores 10 million, and making all 27 of them scores a cool **ONE BILLION** points!!

There are a few other things going on in **THE SHADOW** that I should mention. One is the Mongol Attack. Begin this round by spelling *MONGOL* on the playfield. You can use the center stand-up target to spot unlit letters. This begins a timed hurry-up mode on the outer loops. Hit it early for the bigger points, or, if you're lazy, pull the gun's trigger to score a quick and effortless 3 million.

There are also build up awards for shooting outer loops. Make it through all of the destinations to the right Super Loops. These score 20 million until the end of the current ball. Inner loops, however, are a different story. These must be made in-a-row. There is an opportunity to light the extra ball, and score points by making an ever increasing quota of loops-in-a-row.

Combos are awarded very well in **THE SHADOW**. Making successive ramps and loops will collect various combo values. You can make up to a seven-way combo, but you have to be really skillful to do that!

The final feature included in this game is the "Who Knows" shot at the right eject hole. This is a random award that gives either a decent amount of points, or other scoring features, including an extra ball.

I know I've been raving about this game, but that doesn't mean that it is without its flaws. One thing that the engineers at Williams can't seem to get right is an eject hole that won't allow the ball to dribble out. This is a major problem with the Battlefield up-kicker, and the right eject hole. It is very frustrating to make these shots, only to have the ball bounce out. I am hopeful that someone will come up with a solution to this dilemma in the near future.

THE SHADOW is a unique game that has so many opportunities for scoring, and can be played in an infinite number of ways. Perhaps this is why I enjoy playing it. The entire package is memorable, from the excellent dot matrix displays, the mesmerizing musical score, to the shot filled palyfield. Brian Eddy has created a fun game that remains challenging even after many, many plays. I'm looking forward to more games from this talented design team

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PLAYING THE FIELD

SHAQ ATTAQ

By Steve Baumgarten

Premier's **SHAQ ATTAQ** is another in their new line of games based on licensed themes -- in this case, Shaquille O'Neal, star player for the Orlando Magic and the biggest thing to hit the NBA in years. It's a follow-up to the popular and successful FREDDY: A NIGHT-MARE ON ELM STREET, and while **SHAQ** is a very different sort of game, it's obvious that Premier has now become quite adept at acquiring excellent licenses and developing them in unique and original ways. Their skill in the use of playfield toys and quirky layouts is quickly translating into their most successful series of games in recent years.

The most obvious feature of **SHAQ** is the large moving basket enclosed in a clear plastic dome, right in the middle of the playfield. The basket is, in fact, a replica of a standard back board and basket, and the playfield graphics are designed to highlight the resemblance to a miniature basket court. (With one notable exception, of course: the basketball court in **SHAQ** is actually a WHIRL-WIND-style spinning disk, which makes the ball do interesting things after each shot attempt: it might drain back to the lower portion of the playfield via an up-kicker and a habitrail; it might get near enough to the mini-flippers to allow for a shot to the drop targets near the back of the game; or it might simply take off in a completely unpredictable direction.)

You shoot the basket by sending the ball up a short ramp, located directly above the flippers in the middle of the playfield. As the ball climbs, then leaves the ramp, it becomes airborne; if you've timed your shot right, the moving basket will have moved back into position, and the ball will bounce off the back board and into the basket -- a most satisfying shot.

That basket really is fun to shoot -- in fact, I'm willing to say that it's far and away the best interactive toy in any recent game. Fortunately, **SHAQ**'s designers realized this and made the basket worth shooting: during multiball you can hit it for repeated jackpots for 20M; each jackpot sets up a timed shot for a super jackpot, worth 100M. Needless to say, multiball is very lucrative in **SHAQ**, and the better your shooting the more you're going to score. (During regular play shooting the basket lights a lock on the right ramp to lock a ball up for

multiball, keeping the focus multiball related throughout the game.)

Of course, **SHAQ** is more than just that wonderful toy, though the toy is what first draws you to the game. The curiousity it arouses -- I wonder if I can get the ball

through that basket; what'll happen when I do? -- is exactly the kind of thing it'll take to draw new players to the sport. While the license alone might have been enough to attract novices and give them a reason to try a play or two, the moving basket is what has

kept them coming back, and it's made **SHAQ** one of Premier's most popular games.

Beyond the basket, **SHAQ's** playfield is pretty well laid out, with a nice long spinner shot up the left side of the game and a tight ST:TNG Holodeck-style ramp on the right. There's also a lot going on behind the basket: an up-kicker (which gives you a choice of mystery awards) and a bank of drop targets. The lower playfield features a vari-target (the game announcer calls it that, urging you again and again to "Shoot the VARI-TARGET!" during one of the modes; this must mystify those novices who forgot to bring their pinball glossaries to the arcade that day) and the entrance to the right ramp; a shot up the ramp starts a mode or multiball.

SHAQ's rules attempt to tie all these playfield features together, and for the most part they're very successful (the drop targets increase the bonus multiplier, which also multiplies the number of basket points you receive at various places on the playfield; as the ball travels arounds the playfield, it lights numbers from 1 through 5, moving you toward the award of another game ball, etc.). However, as someone who's not a novice player by any means, very little of **SHAQ's** rules were obvious to me even after repeat play -- in fact, in writing this review, I had to refer to Dave Stewart's excellent rule sheet [*] to refresh my memory about some of **SHAQ's** more obscure rules. Contrast this with the typical game from WMS, say WORLD UP SOCCER, which has equally deep rules, but which for some reason is a game that feels intuitive and easy to understand almost immediately. You can see, on the playfield, how a shot to the goal lights a bonus award at the ramps, or that getting the second half of your ticket lights the left orbit to allow you to "travel" to that city. There's a lot of stuff going on in **SHAQ**, but it's often not clear at all what any particular shot ultimately is going to help you.

This may be an unavoidable downside to the game's rules, which are more than challenging enough to keep an expert player interested; in fact, they are in many ways much more wide-ranging than the rules in a typical WMS or Sega game, in the sense that the rules for the typical pin often boil down to little more than "play these modes to proceed to wizard mode, or play multiball for jackpots." In particular, there are five "Hidden" features that require you to pay attention while playing to see whether something you've just done has triggered one of them. (Alternatively, you could just ask someone who knows what you need to do to trigger each hidden feature; or you could check the rule sheet [*], which covers all this in much greater depth.) Features that have been awarded are displayed prominently as lit basketballs, so you always know how close you are to completing all five. (And it's well worth trying for, since you're

awarded bonus points after your game ends based on the number of hidden features you found, from 10M for one feature all the way up to a billion points for all five.)

In addition to the post-game hidden feature payoff, **SHAQ** has the same kind of "collect 'em, save 'em, and trade 'em feature that debuted with FREDDY. The idea is that various game features award you "game balls"; at various points in the game you're given the opportunity to trade all your game balls in for a particular award. The trick is that the longer you wait (and the more game balls you collect), the better the award, from a measly 10M points; to an extra ball; to the most lucrative scoring round in the game (Slammin' Jammin'"); to a "double your score" award.

All of these expert-friendly features encourage you to learn the game and form a strategy around more than just repeating a set sequence of shots over and over again. And to the extent they do that -- keep expert players interested in the game and coming back for more -- they're very successful. Such "expert-friendly" features are something of a Premier specialty at this point; the other manufacturers have remained content with keeping their game rules relatively obvious with not a lot going on behind the scenes. However, I suspect we'll start to see **SHAQ's** game ball gambling aspect turning up in other games, if only because it really is fun to consider risking a good award now for the promise of a better award later. It's kind of like there's a "meta pinball" game going on under **SHAQ's** more broadly obvious surface game.

SHAQ does have some problems, though, as any game will, and one of the biggest for me is the sound, which ranges from bad to unbearable. The announcer -- such a big part of WMS' WORLD CUP SOCCER, adding humor and excitement to that game --sounds like someone behind the counter of a New York deli. He yells incessantly at the player, often attempting to direct the action rather than comment on what's actually happening on the playfield. There seems to be no escaping this grating tutorial, with its shouts of "Shoot the spinner!" and "Ramp! Ramp! Ramp!", and it's too bad, because **SHAQ** could really have been enhanced by a WMS-style announcer. (What a shame that Premier didn't get Marv Albert involved -- imagine hearing him say "YESSS!" when you hit a jackpot, or commenting that "Shaquille O'Neal is on FIRE!" when play got particularly hot and heavy.)

Sound has never been Premier's strong suit, but the sound in **SHAQ** seems unnecessarily bad. I've heard that their entire sound system will be upgraded shortly to something more competitive with Sega's BSMT 2000 and WMS' DCS; for me, it couldn't happen a moment too soon. (But primitive hardware doesn't excuse lousy

sound -- after all, look what WMS was able to do with their pre-DCS sound hardware.)

The annoying announcer also points up another problem with **SHAQ**: it's generally not obvious to a novice player what he or she is supposed to be shooting for at any given time -- or, more importantly, why. Contrast this with a game like THE SHADOW, where you can see the immediate consequences of every single shot on the game, and, for the most part, how every feature fits with every other one. The K-A-H-N mode saucer lights once you complete the letters via inlane and outlane rollovers; it may not be immediately obvious what will happen when you get the ball in the lit K-A-H-N saucer, but once you do it one time you can see why you'd want to try to do it again in the future. Similarly, playfield lights show you what you need to do in each mode -- the game doesn't need to yell at you to get you to do what it wants you to do. Instead, THE SHADOW was designed so thAt you need to make shots that you ordinarily "want" to make, whether or not they're lit.

This often is not the case with **SHAQ**, and I think it detracts from the overall play experience. Instead of allowing you to make a series of different shots to complete a mode, **SHAQ** will too often force you to make one particular shot over and over again. One "pound this target" mode is fun; but when all of them are that repetitive, a player may feel he's being forced to play the game the way the game wants him to play it, rather than the way he'd prefer to play it.

Last, **SHAQ's** dot-matrix work is OK, but not great. As with sound, Premier needs to improve their dot-matrix display code if they want to remain competitive with WMS and Sega. To their credit, this is one area that has been steadily improving since they switched from alphanumeric to dot-matrix displays. (And perhaps to make up for the lack of dot-matrix pyrotechnics, **SHAQ's** playfield light show at the start of multiball is truly outstanding.)

Overall, **SHAQ ATTAQ** is a very solid game, with good toys, good rules and enough depth to keep veteran players coming back for more. Best of all, it's also equally attractive to novice players, and especially to people who don't ordinarily play pinball at all. Kids can't seem to resist a play or two just to see how often they can get the ball into the moving basket; in this way, **SHAQ** embodies the best of current pinball design with the best of the mechanical novelty arcade games of long ago.

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[*] The **SHAQ ATTAQ** rule sheet is available on the Internet in Kevin Martin's amazing pinball archive:

http://pinball.cs.cmu.edu/.

PLAYING THE FIELD

OPERATION THUNDER

By Stephen A. Zamonski

In a way, it marked the end of an era. Released in early 1992, **OPERATION THUNDER** was the last pinball machine issued by the big U. S. manufacturers that did not have a dot-matrix display. While the other companies had already produced several games using the new-style displays (CHECKPOINT, T.M. NINJA TURTLES, GILLIGAN'S ISLAND, TERMINATOR 2, etc.), Gottlieb had not yet switched over to them. A few months after **OPERATION THUNDER**, however, came SUPER MARIO BROTHERS, the company's first dot-matrix venture. Historical trivia aside, **OPERATION THUNDER** is an interesting game; and -- as luck would have it -- it is the subject of my review for this issue.

"Eagle 3, You Are Cleared for Take-off..."

The main objective of **OPERATION THUNDER** is to complete twelve missions. Each time the player completes a mission successfully, he or she receives a "promotion" to a higher rank. This is important because at the end of the game, a "rank bonus" is awarded. There are twelve ranks -- the lowest of these is "Warrant Officer" (bonus = 1 million), the highest is "Five-Star General" (bonus = 50 million). More details on the missions later; first, however, a quick "flight" around the playfield.

"Let's Take Out That Power Plant"

The most interesting playfield feature is the Power Plant, located at the top of the shooter lane. The Plant is a spinning disk with six standing targets around its top half. Each time a ball is put in play, it enters the Plant first. Located on the plastic mountain above the disk are lamps that indicate which targets still need to be hit. These lamps can be rotated with the flipper buttons. I now pause for a bit of editorializing:

Don't get me wrong; the plant is a cool idea. It is fun to move the lights around and try to complete all the targets. However, it can get a bit tedious after a few games. It reminds me of an earlier Gottlieb game (1987, to be exact): ARENA. Those of you who remember ARENA will recall The Pit, a large circular wooden table with lanes that awarded different things depending on which hole the ball finally landed in. Personally, I thought it took too long and broke up the flow too much. I don't dislike the Power Plant as much, but it can be a pain. In addition, I have noticed that sometimes the ball will quickly land in the eject hole just below the disk and bounce back out, thus fooling the game into thinking that the ball is now out of the Plant and on the main playfield (which starts the various countdowns, timers, etc.). Meanwhile, the ball will continue to bounce around on the disk as it slows to a stop even though the "plant scoring" is over -- causing further frustrtation. Enough -- back to the playfield tour...

There are several main scoring "shots" (at which "hits" are made during the missions) in **THUNDER**. Just below the Power Plant, hidden under more plastic terrain, is a vari-target (remember them?) where **"ammo dump"** hits are scored and bonus multipliers are collected (specials are available at certain levels).

The **"anti-aircraft"** upkicker (also the Thunder Award" mystery hole) is located just below the upper right flipper. On the left side, just above the slingshot is the **"artillery"** standing target. Above this is the spinner lane which leads to the **"train"** upkicker at the top left. The ramp entrance is located about two-thirds of the way up the left side of the table. It is on the ramp that the **"radar"** shot is scored, balls are locked and jackpots are collected. To the right of the ramp entrance is the **"bunker"** tunnel hole, which leads the ball down to the "anti-aircraft" upkicker. At the top left is the aforementioned "train" upkicker, which returns the ball down the ramp to the left flipper. The **"heliport"** (top-center upkicker) returns the ball to the upper right flipper via a wireform tube.

The "Thunder Award" mystery hole awards random features including: 500K, 3M, collect bonus, advance special, complete mission, extra ball, etc. Depending on the setup, the infamous Gottlieb "Catch-up" award may be available. Catch-up ties player's and leader's scores in a multi-player game.

"Destroy All Flashing Targets..."

When discussing the missions, this is good advice. As is the case with most recent Gottlieb games, if you are unsure of what to do, you are safe shooting for the blinking lights. The voices give the player specific shot advice, though, so confusion should be minimal. Before the step-by-step analysis begins, some general notes are in order...

There are two multiball missions (3 & 10). Several of the missions are "timed" (4, 6, 12 and others, depending on the setup); that is, they must be completed before the fuel gauge on the display runs out. If this happens, "eject" flashes on the display, the flippers go dead and the ball drains. The rate at which fuel drains is adjustable. "Re-fueling" is possible during timed missions by passing the ball through the right flipper return lane and then hitting the spinner. In addition, if a ball drains while a mission is in progress (during one-ball play), the next ball begins with the next mission ready to start (no promotion is given, however). Thus, even if the player drains the first two balls quickly without completing either mission one or two, he or she will still have an "automatic" multiball as mission 3 (dogfight) begins. This is a good feature, in my opinion, because it guarantees all players at least one multiball. And now, the specifics...

The "primary objective" in mission 1 is to lock the ball on the ramp. This can be done by hitting the ramp shot (radar) directly, or by hitting the train upkicker. Locking a ball ends the mission, awards a promotion and starts mission 2. Also, the power plant builds the "strafe value" during mission 1. This value may be collected repeatedly by hitting the spinner.

To complete mission 2, once again, lock the ball on the ramp. There is another facet to this mission, however: the power plant builds the "attack" countdown value (maximum is 9,999,000), which can then be collected by hitting the flashing attack shots until it reaches zero.

Mission 3 (dogfight) is either 2 or 3-ball multiball depending on how many balls have been locked to this point. If none have been locked, the first ball plunged to the Power Plant locks in the eject hole beneath it. The plant also builds the extra ball countdown time (maximum 10). Hitting the artillery standing target awards the extra ball. To complete this mission, the player must hit all the flashing airplanes (one each at

the radar, heliport, bunker, train and anti-craft). Doing so adds a letter to "special" and scores an extra ball. The round ends when multiball is lost.

Mission 4 is the "tanks" round. A set number of drop targets (adjustable, typically all of them) must be hit before the fuel gauge reaches zero. A special is awarded (along with a promotion, of course) for this task.

To complete mission 5, the anti-aircraft, ammo and train shots must be hit (did someone say "destroy all flashing targets?" I thought so).

Mission 6 is my personal favorite. This "seek & destroy" round is completed by finding the hidden enemy at one of the flashing locations before fuel runs out. When the enemy is found, a nice display of flashing lights on the backglass is accompanied by the pilot's remark "Look at that baby burn!" A cool 20 million points is awarded and the round ends.

During mission 7 ("Destroy all flashing..."well, you get the idea), the player can score an extra ball for a timed period by hitting the artillery target. This leads me to mission 8, which is the "Attack" countdown round. As the attack value times out, the flashing attack shot moves around the playfield. This mission ends if the attack shot is scored or the timer reaches zero.

Mission 9 involves shooting the anti-aircraft, ammo, bunker and heliport targets in order. If this is done successfully, the heliport locks the ball for mission 10, a 2 or 3-ball multiball round, which is a potential scoring bonanza. The Power Plant targets build the jackpot value in 100K increments, with 3M added if all targets are hit. While multiball continues, jackpot, double jackpot and super jackpot are available consecutively on the ramp.

The object in mission 11 is to shoot several targets in order (what a concept) -- which leads to mission 12 (The Final Assault). The object in mission 12 is to complete all the flashing tar-

gets (everything) before the fuel drains. If this is done, the player is promoted to 5-Star General and, depending on the game setup, his or her game either returns to mission 6 or ... (get ready) ...ENDS!

I suppose it makes sense, but I am against this idea. As Steve Baumgarten noted in his review of ROAD SHOW, pinball machines are not video games -- I'd much rather play until I lose my last ball than have the game end after the last mode is beaten. I must mention that the factory "default" setting is for the game to continue to mission 6, but I have played THUNDER machines that were adjusted so that the game ends in this manner and I have not been pleased with them. While I'm on the subject, the automatic ball drain after failed timed modes is not high on my list of positive pinball features either. In many games, timed modes just end -- but the ball stays in play.

On the plus side, OPERATION THUNDER gets "bonus points" for a trait that it shares with most of my favorite games: the player needs to make almost all the shots on the playfield to be successful. Leonard Moscaritolo made this same observation in his review of STREET FIGHTER II, a later Gottlieb game, and it is a point well taken. Remember Steve Baumgarten's comments on the deterioration of BLACK ROSE (you don't? Drag out those back issues!) into a one-shot game? This doesn't happen with OPERATION THUNDER.

When all is said and done, I enjoy playing OPERATION THUNDER. I hope that you have enjoyed reading about it. A special note of thanks to Todd Tuckey of TNT Amusements in Southampton, PA, for his assistance with this article.

PLAYING THE FIELD

CRYSTAL CALIBURN

By Ben Beishline

Pinball purists may well scoff at the idea of a computer pinball simulation. After all, the magic of pinball lies in the physical contact with the machine and the kinetics of the steel ball. Live motion is what pinball has over the computer-generated blips of a video game. It's the motion that hooks players and keeps them coming back. Nonetheless, computer pinball simulations have been around for some time now, and with improving computer technology and programming techniques, they keep getting better and more fun. Though it still has some problematic areas, **CRYSTAL CALIBURN**, the latest "video pinball" creation of Little Wing, is a highly advanced computer pinball game. (Little Wing was the creative force behind Tristan and more recently, the computer version of Eight Ball Deluxe.) There are a few other computer pinball games around, but most are for PC compatibles, and I haven't seen them so I can't make a comparison. **CRYSTAL CALIBURN** is available for color Macintosh computers with at least 4MB of RAM (and publisher StarPlay claims it is soon to be released for PC's as well), this program will deliver the thrills of video pinball to wizards who want to play at home but can't afford (and may not have space for) a real machine of their own. Of course, those owning a few real games may well want a copy also...

CRYSTAL CALIBURN is based on a King Arthur theme, with various elements of medieval fantasy figuring into the playfield and rules set. (Caliburn is another name for Excalibur, Arthur's famous sword. Crystall?? Got me...) The ultimate goal is to add twelve knights to the round table by "accolading" them, and then collect and bring home the Holy Grail. Along the way players will encounter magic swords, a dragon's

cave, and even the helpful spells of Merlin the Magician. The only thing that seems to be missing is a damsel in distress. There is no actual mechanical version of **CRYSTAL CALIBURN**, but the designers say that they made the game based on the features of typical (late) '80s machines. As such, ramp shots figure prominently, and the game also features multi-ball (dubbed "MultiBattle"), a lane-changer, and real nifty (that's right, I did say, "real nifty") sound with some digitized speech. Other features include "Auto Battle" which gives you the ball back if you lose it too quickly and "quick move" combinations, which award extra points when made.

The graphics are colorful and intriguing, with various knights, skulls, dragons, and flames adorning the playfield. Even though the playfield has lots of stuff on it, it doesn't seem cluttered or confusing. A picture of what would be the backglass (a stained glass motif) and the score display lies to the right of the playfield on the computer screen.

The playfield has two clear plastic ramps, one on the right and one on the left. The opening plunger shot takes the ball around the right ramp and into play. A successful right ramp shot comes back to the playfield via a short tunnel and a left ramp shot brings the ball back down to the left inlane. Above the ramps at the top of the playfield are three rollover lanes and a kick-out saucer, which doubles as one the locks for multi-ball. Hitting a lane lights it, and completing all three advances the bonus multiplier and lights the right ramp for "Accolade Knight." A standard lane-change feature allows the player to change which lanes are lit, making it easier to clear them.

Below the rollover lanes (more or less between the ramps) are three pop bumpers called "Battle Bumpers." There are four sets of stand-up target banks on the field; one each on the right and left edge of the playfield about halfway down, one called "Glass Island" at an angle in the middle of the field below the pop bumpers and just to the right of the left ramp, and one on the upper right side, by the bumpers and beside the left ramp.

Just above the left-side target bank is a kickout saucer, which also acts as a lock and/or awards a magic spell from Merlin if so lit. Above this saucer and to the left of the left ramp is the left loop shot. There is a corresponding loop shot, called the "Dragon's Cave" because it has a playfield plastic enclosing part of it to form a kind of tunnel, on the right. The Dragon's Cave will hold the ball for a lock when lit; otherwise the ball will pass throught it. A clear shot through the left loop will go around the top of the playfield and pass through the Dragon's cave from the top, coming back down to the flippers. A not-so-clear left loop will drop down through the rollover lanes.

Both outlanes have kickbacks, called "shields," and both are lit at the beginning of each ball. This may seem excessive, but they are necessary, as the outlanes tend to suck down balls like Hoovers run amok. The ramps light the inlanes, which re-light the kickbacks. Above the flippers are a pair of, you guessed it, slingshots. If you're now thinking to yourself, "Hey, this almost sounds like a real pinball machine" then you've got a good mental image of the game.

The game opens with a shot from the

plunger, which is made by holding down the shift key until the plunger comes back to where you want it, and then letting go. The problem here is that the plunger comes back quickly once you press the key, and there is no way to return it to a point you have already passed. If you hold the key down until the plunger makes it all the way back, you have no choice but to send the ball to the field at full throttle. This wouldn't really matter, except there is an undocumented semi-skill shot, which awards a "Camelot" for 25K points and spots a target in the top right bank if you make it. (This skill shot basically scores a right ramp shot, and the value of the Camelots increase as more shots are made.) The shot is made by shooting the ball hard enough to make it pass the beginning of the ramp, but soft enough that it doesn't go around. It requires quite a soft shot, and is not excessively hard but can be difficult to make consistently using the keyboard plunger release. I think that a much better solution for launching the ball would be to drag the plunger back with the mouse to the desired point, and then release it by letting go of the mouse button. That way, you could always let it go from just where you wanted, as in real pinball, rather than taking your chances at releasing the shift key at just the right instant as the plunger comes rolling quickly back. This is admittedly a small flaw, and would be easily convertible in any future games from StarPlay should they decide that there is a better way.

The four target banks are used to light other features of the game. The bank of three on the top right lights one lock for multi-ball each time it is completed. The central set of four targets, called the "Glass Island" (a reference to the island Avalon, where according to legend Arthur's body was sent after his death) lights the value of all targets for a limited time. Each time the Powered Excalibur is collected, it adds to the multiplier, which can go up to 5X for some heavy-duty scoring. As each multiplier times out, the value will drop by one until there is no multiplier.

The left and right side three-target banks light one random award, collected on the left ramp. These awards

are Battle Bumper (increases the value of the pop bumpers to 20K), Bonus Hold, Surprise Attack (instant multi-ball), 1 Million points, Bonus Multiplier, Auto Battle (automatically returns any lost ball into play until it times out), and Max Power Excalibur (5X field multiplier). Extra ball awards will light after three other awards have been collected, and finally the awards Magic Shield and Magic Spear light. Magic Shield keeps the outlane ballsavers lit for 40 seconds, and Magic Spear sets the field multiplier to 10X plus whatever the current multiplier is for 40 seconds. Completing any of the target banks also lights the right ramp.

The right ramp shot spots one of the targets in the top right bank as long as no multi-ball has been played, and collects the jackpot during multi-ball. It also accolades one knight when lit by the target banks, inlanes, or top rollovers. The knights are represented by a circle in the middle of the playfield, which has a light at each of the 12 clock positions. Each light represents one knight, and once all twelve are lit, the left ramp lights for "Get the Holy Grail."

The left ramp spots one target on the Glass Island target bank, and collects the Powered Excalibur, Flashing Award, and Holy Grail if lit for such. Once the Holy Grail shot is made, the ball comes through the left inlane and the player must immediately shoot the right ramp to bring the Holy Grail to the castle, the ultimate goal of the game. Bringing the Grail home kicks the game into super-scoring mode, starting all of the game awards at once. This includes Multi-battle and Auto Battle, so any balls lost are returned to the playfield for a period of invincible multi-ball, something like being "Lost in the Zone" in *Twilight Zone*. Getting the Grail to the castle guarantees mega-points.

The three multi-ball locks light in counter-clockwise order, one each time the top right 3-target bank is completed, starting with the Dragon Cave on the right. Next is the kick-out at the top, and the last to light is the Invoke Merlin/lock/kick-out on the left.

When the Dragon Cave is unlit, the ball will simply pass through it. Once

lit, however, any ball entering from the top or making it far enough in from the bottom never emerges, and the display tells you that the ball is locked.

The top lock is a kick-out hole which will also light for an extra ball if the top right target bank is completed while in multi-ball. When not lit, it will kick the ball to the right, usually sending it through the Dragon Cave.

The Invoke Merlin/lock/kick-out on the left will grant a beneficial "spell" when so lit. These range from points to re-lighting the Shields (outlane ball-savers) to lighting the extra ball. When not lit for a lock, it will simply kick the ball back out onto the playfield. In what I consider a bit of a design flaw, the Merlin lock is slightly recessed to the left on the playfield, making it all but impossible to shoot a ball in there on purpose. It is impossible to bank the ball off the left edge of the left ramp into the hole, but the changes of making the shot are slim. If you want Merlin's help, you'll mostly have to rely on luck.

The top lock is not directly shootable either. About the only time a ball ends up there is when it gets knocked in from the bumpers. All things considered, it is hard to lock balls in this game.

The Dragon Cave on the right and the lane to the left of the left ramp form a loop or orbit shot. You can lock balls in the Dragon Cave from either flipper, shooting it directly from the left or going all the way around the machine from the right. Still, it's not an easy shot. The saving grace is that once you lock a ball in the Dragon Cave, you can re-light it from the target bank and lock another ball, unlike the other two locks which actually hold the balls and subsequently can't take more than one. As soon as three balls are locked, the multi-ball begins. All three can be locked in the Dragon Cave.

The flippers behave pretty much like those on a real machine. A quick jab at the flipper key will result in a partial flip. Some advanced flipper techniques, such as transfers, are possible but risky.

It is very easy to trap balls in **CRYS-**

TAL CALIBURN. Any ball coming through the inlane, no matter how fast, will be trapped if you simply hold the flipper up. This leads us to the only serious problem with the game: shots from the flippers are not always consisent. On any "real" pinball machine, you can consistently shoot the ball in the same general direction from a trap, and the further down the ball is on the flipper when the shot is made, the more toward the opposite side of the playfield the ball will go. There seems to be some random element that affects ball direction in this computerized version, though. The ball can end up going on very different paths when shot from the same area of the flipper.

While one would expect the angle of shots to vary small amounts due to releases that aren't timed perfectly, there are certain spots on the flippers which can send the balls in radically different directions from one shot to the next. Keep in mind that I am talking about shots from a dead trap here. The most blatant example of this (to me) is the spot halfway down the right flipper. A shot from here will sometimes act like a backhand and hit the Glass Island targets on the right side, (a position slightly to the right of the center of the playfield) and sometimes go straight up the left loop! My timing may not be perfect, but I know I am not *that* far off! Other shots have similar peculiarities, mostly to a lesser degree.

The upshot of this is that shots can become frustrating. Probably 98% of those who buy CRYSTAL CALIBURN will just be people who want a fun, cool-looking game on their computer. They'll be content to flail away at the ball and would probably never notice the shot inconsistency. Unfortunately, it will drive pin-heads nuts.

On the same note, some shots can be made from more than one spot on the same flipper. The right ramp, for example, can be hit from about one-third of the way down on the left flipper, but a shot off the end of the flipper (a much more logical position) will occasionally make the ramp, too. Most players begin to develop a feel for any particular game they play much. As the rules become clearer, the player also starts to get a groove for the major shots, and

then he/she/it can play the machine fairly well. CRYSTAL CALIBURN resists these shot grooves. I took one hundred shots at both the right and left ramps to see how well I was doing. I made the right ramp 52 times and the left ramp 50 times. (That's 52% and 50% respectively - ask any math major.) You may be thinking I'm just a bozo who can't hit a ramp, but while I'm not a great player, I seem to be able to develop a "feel" for real games better than I did for CRYTAL CALIBURN. Don't get me wrong; I'm not whining about hard shots. Rather, I'm whining about shots that seem to be more at the program's mercy than the player's.

Going for a combo shot is even worse; once the left ramp is made successfully, the odds of hitting the right ramp without trapping the ball first (a no-no when you're trying to bring that Grail home as the shot will time out) is very low. Shooting from the usual sweet spot on the flipper won't make it, so the only workable solution is to shoot from the tip of the flipper. The ball often takes an annoying little hop as it goes from the inlane to the flipper, just as it would on a real machine with a poorly adjusted inlane guide, throwing things off. I've found that after successfully hitting the left-ramp right-ramp combination is such an important part of the game, I get frustrated at the low makability. I have talked to people who don't seem to think that the shots are really inconsistent. Part of the problem could be that since the scale is small, any amount of error in flipper timing is magnified. In any case, you will certainly find some of the shots challenging.

Hitting the space key "nudges" the machine, giving it a quick push forward. While this simplistic rendering of what can be a complex pinball action does rule out some of the esoteric techniques of the wizards, I feel that it is the best solution in this case. Simulating different kinds of nudges would require different keystrokes for each, which the player would never be able to hit instinctively in the heat of battle. CRYSTAL CALIBURN's nudge feature will often save a ball headed for an outlane drain and shouldn't be expected to do much more. If you nudge

too much, you can tilt the machine. The tilt is quite liberal, but one sure way to set it off is to hold the space bar down. Oops.

Following are some playing hints from Mark Phaedrus, which I use with his permission:

*The nudge is the key to high scores. The slingshots love to send the ball right into the outlanes; learn to recognize the angles that will cause this, and press the nudge key just as the ball strikes the slingshot, sending it up to the target banks instead. Don't be stingy with the nudge; you can rack up as many tilt warnings as you want as long as you stop nudging for a few seconds when the warning appears. Careful nudging can also send the ball from the right slingshot to the Merlin saucer or from the left slingshot to the Dragon Cave. Don't nudge indiscriminately, however; nudging can put the ball in the outlane as easily as it can take it out.

*Use the AutoBattle feature for all it's worth; draining a ball with AutoBattle active collects a Knights if it's lit (because the ball is send around the ramp when it is put back into play) and relights the left inlane as well. Use this off the initial plunge; shoot the plunged ball up the Glass Island (left) ramp to light Accolade Knight from the inlane, then let the ball drain to collect it. Repeating this pattern can be worth as many as seven Knights during the 40-second AutoBattle mode awarded by the ramp. (During this 40-second mode, do not lock balls; if you do, you lose the remaining AutoBattle time.)

* When an award is lit at the Glass Island ramp, collect it, no matter what it is. (Exception: Avoid "Surprise Attack" when very close to the Holy Grail.) The most important ramp award is the extra ball that's lit when you complete the four regular awards from either target bank; since you need all four awards to collect this anyway, the order you collect them in doesn't matter.

* Likewise, when a Knight is lit at the Camelot (right) ramp, shoot for it. Holy Grail is where the big points are; an ordinary MultiBattle is small change by

comparison. (Locking a ball will collect the lit Knight as well, so consider that if the lock is easier.)

* Merlin is definitely worth going for, even though you can't hit it with a direct shot. A ball heading for the left slingshot can sometimes be nudged into going from there off the right slingshot and into Merlin; or you may be able to bounce a shot off the opening of the Glass Castle ramp. Be careful when the ball kicks out, though; it goes to the right slingshot, and likes to bounce into the left outlane from there. Give a nudge just barely before the ball hits the slingshot; this usually sends the ball away safely.

* Watch your Knights. When you have more than nine collected, avoid locking balls, and particularly avoid MultiBattle; remember, once you light all twelve Knights, you have to start Holy Grail before the end of the ball or you lose them all - and you can't do that during MultiBattle. MultiBattle will usually use up both your Shields, making it that much harder to start Holy Grail afterwards. If you do have MultiBattle running with all twelve Knights lit, and both your Shields are still lit, it's worth it to simply keep one ball in play and let the others drain until MultiBattle ends; this gives you the best chance at the Holy Grail. If you're in MultiBattle and you're very close to Holy Grail, then shoot bumpers to drive up the Jackpot, but do not collect it! The Jackpot resets when collected, and carries over between MultiBattles when not collected - that 5M Jackpot will become 75M in Holy Grail.

* During Holy Grail, go for the Dragon Cave shot; as long as you can keep it lit by shooting it every few seconds, it's worth 15M a shot - with practice, you can easily get close to 100M in Dragon Cave points alone. Be sure to collect at least one Jackpot in the first 30 seconds; you don't want the 15x playfield multiplier to expire first. Don't forget that, even though all the Glass Island ramp awards have been awarded, you can still collect them again normally from the targets and the ramp.

All in all, **CRYSTAL CALIBURN** is an excellent simulation of pinball, offering the player a colorful, attractive game with short and long term strategies and a difficult but achievable ultimate goal that yields a nice reward. The player will uncover features as he goes along. A well-written manual explaining game features and pinball play in general comes with the game. I feel that the fact that **CRYSTAL CALIBURN** can be reviewed as if it were an actual pin-game really says something for it. If it weren't for the flipper quirks, the game would be almost perfect.

As it is, I feel that it is a good value and a must-have for anyone into pinball who owns a color Mac. It does keep you coming back, and that's the hallmark of a good game. I hope that Little Wing/StarPlay conquer those flipper troubles for their next pinball project, a game called "Loony Labyrinth." StarPlay tells me it is based on an Egyptian theme and is slated for release for the Mac in December. Rumor has it hat Little Wing/StarPlay doesn't want to work on simulations of actual games like EIGHT BALL DELUXE any more, but we can still hope that maybe they will change their minds and obtain rights to THE ADDAMS FAMILY. I'd be the first in line.

PLAYER GAME RATING

These are the running totals and averages for our first three game rating ballots and many thanks to all of you who responded. For the next issue we'll keep this list and add in Batman Forever, The Big Hurt, Water Word, Jack-Bot, Indianapolis 500 and Johnny Mnemonic.

Game	Playfield Layout	Rules	Artwork	Audio/ Visuals	Distribution*
Star Trek: The Next Generation	9	9	9	9	9
Tales From the Crypt	7	8	9	9	6
Tommy	8	9	8	9	6
Wipeout	5	5	6	6	6
Rescue 911	6	6	7	6	5
Guns 'N Roses	5	5	6	7	6
World Cup Soccer	6	5	6	5	7
Demolition Man	7	7	6	7	6
Freddy's Nightmare	8	7	8	6	6
Road Show	9	8	8	8	7
Corvette	6	6	7	7	3
Maverick	6	7	6	5	3
Shaq Attaq					
Stargate					
Dirty Harry					
No Fear					
Frankenstein					
Baywatch					
The Shadow					
Theatre of Magic					

GAME RATING BALLOT

RATING SYSTEM: Each game listed may be rated individually on a scale of 10 (High) to 0 (Low) for each of 5 categories. Send your completed ballot to: Steve Epstein, **THE FLIPSIDE**, 81 Carrar Drive, Watchung, NJ 07060. The results will be announced in the next issue of **THE FLIPSIDE**.

Game	Playfield Layout	Rules	Artwork	Audio/ Visuals	Distribution*
Star Trek: The Next Generation	_____	_____	_____	_____	_____
Tales From the Crypt	_____	_____	_____	_____	_____
Tommy	_____	_____	_____	_____	_____
Wipeout	_____	_____	_____	_____	_____
Rescue 911	_____	_____	_____	_____	_____
Guns 'N Roses	_____	_____	_____	_____	_____
World Cup Soccer	_____	_____	_____	_____	_____
Demolition Man	_____	_____	_____	_____	_____
Freddy's Nightmare	_____	_____	_____	_____	_____
Road Show	_____	_____	_____	_____	_____
Corvette	_____	_____	_____	_____	_____
Maverick	_____	_____	_____	_____	_____
Shaq Attack	_____	_____	_____	_____	_____
Stargate	_____	_____	_____	_____	_____
Dirty Harry	_____	_____	_____	_____	_____
No Fear	_____	_____	_____	_____	_____
Frankenstein	_____	_____	_____	_____	_____
Baywatch	_____	_____	_____	_____	_____
The Shadow	_____	_____	_____	_____	_____
Theatre of Magic	_____	_____	_____	_____	_____
Batman Forever	_____	_____	_____	_____	_____
The Big Hurt	_____	_____	_____	_____	_____
Water Word	_____	_____	_____	_____	_____
Jack-Bot	_____	_____	_____	_____	_____
Indianapolis 500	_____	_____	_____	_____	_____
Johnny Mnemonic	_____	_____	_____	_____	_____

*This is a rating on the availability of that machine in your area.

THE FLIPSIDE PROFILE: STEVE RITCHIE

For two decades he has been one of, if not the most, successful and influential designer in the world. With a unique vision that has shaped today's modern pinball, Steve Ritchie has had a profound and lasting impact. His designs have been almost graceful in their accent on speed and fluidity of ball motion that, truly, remain unparalleled in the modern era and we are grateful to feature him in this issue's FLIPSIDE PROFILE.

FS: What had you wanted to do when you were growing up?

SR: I wanted to be a lot of things at different times, but was always sort of inventive and thought that I would be a scientist or an inventor. By the time I was in 8th grade, my teachers had noticed this also and said that I was destined to become "a mad scientist in a toy factory." That is essentially what happened. I don't know of any other kid that built a chariot pulled by bicycles, rode down extremely steep hills into traffic using seat-mounted homemade parachutes for brakes and used snow-skis mounted on a plywood platform to slide down the sides of grassy mountains with no steering! Note that all these activities are speed-related.

FS: Did you play pinball when you were young?

SR: Absolutely! I remember my dad taking me to Playland at the Beach in San Francisco (where I was born), and they had these old wood rails all lined up without legs. They were all like sitting on a shelf or something. I vaguely remember standing on a wooden box to play them. I was only about 5 or 6 years old at the time, so I don't remember titles or anything. He also used to take me to Sutro's, an ancient place that my grandparents used to take my Dad to when he was a kid. I loved all their old novelty machines.

My Dad always loved to play pinball. When he was growing up, the games cost a penny to play and the proprietor would pay out credits in groceries and candy. He would bring a hand drill with him under his coat, and would drill a small hole just big enough to stick a wire into and make switches while his 4 brothers would crowd around

and play the machine. Once, they even took the glass off the machine while the store owner was in the back room. He suddenly walked back out and strolled over to the machine where my father was playing. He said, "How you boys doin?" and stayed to watch awhile. Luckily, he did not notice that there was no glass on the machine. A scary moment for the infamous Ritchie brothers.

The Seabowl on Highway 1 in Sharps Park, California is where I learned to love pinball. I remember 50's and 60's Gottliebs and Williams' that were 10 cents a play that could award lots of specials and on a lucky night while my parents were bowling, I would be able to play for hours on less than a dollar.

FS: How did you get started in the business?

SR: After 4 years in the U. S. Coast Guard (including 1 year in Viet Nam), I had many jobs and played guitar in rock bands. Always broke and tired of being poor, I decided to find a real job. While I was filling out the application to work at Atari in Los Gatos, CA, I couldn't help but notice all these beautiful girls running around—and there was loud rock music playing throughout the entire building. Atari, in 1974, looked like a great place to work! I don't think Dianna, my wife of 2 years, liked the ladies part, but for the most part, she approved.

Having been trained as an electronics technician in the Coast Guard, Atari hired me to work on their assembly line hand-building harnesses for Pong-in-a-Barrel and Trak 10. I was promoted in a month or so to service the digital technician's test fixtures and to design a new Universal Test Fixture. It was a tall orange thing that could test

every game that Atari built. I also built a temp controlled burn-in system for their pc boards.

After about a year, Nolan Bushnell, the President of Atari, asked me if I wanted to be a tech in the engineering department, and I was thrilled. Nolan was always very good to me, and I will never forget the day he said to me, "Steve, we're going to start a pinball division. Would you like to be part of it?" I, of course, said yes. Bob Jonessey, an engineer from Williams, was hired to lead the effort. Bob taught me how to build and wire a playfield, and a million other things about the structure and logic of pinball design.

Every day, Bob would lecture us on how little we knew about pinball. He was right. Bob had 2 new pinball machines brought in to engineering. They were in my work area, and I could play them all night after hours FOR FREE! I will never forget those machines--a Space Mission and a Captain Fantastic. I was permanently influenced by those games. I started a game drawing of my own, and worked on it in my spare time. I used a blank playfield as my drawing table, with the paper taped on. It was Atari's chosen size of 27" x 42". I worked on it for about 10 months, and one day asked my supervisor if I could build it up in my lab. He said "No. Pinball design can only be done by degreed engineers. Don't ask again." His last words ticked me off. The next morning I went up to Nolan's office and showed him my drawing. He looked at it and said, "I can't believe you did this at home. You can have the cubicle next to Gary Slater. Let's get it built and working. As of today, you are a game designer."

I was thrilled, and began work on Airborne Avenger with a vengeance. The prototype was built within 4 weeks, and I had my first encounter with a new guy hired a few months before with a master's degree in computer science. He was none other than Eugene Jarvis, the world-class programmer probably most known (much later) for the games Defender, Stargate, and Robotron. We were to work together. Eugene is one of the most intelligent, analytical and fun people that I have ever known. We got along well and made it happen. It was a little crude, but it worked (?) and made money. We then did Superman, which later became the best-selling Atari pinball of all.

My brother, Mark, also came to work at Atari. He got his coin-machine business start there, too. I think that we have this game design thing in our blood. My son, Chris, may also be capable of designing games. He grew up around all my pinball friends such as Uncle Mark, Larry DeMar, and Eugene Jarvis.

In 1977, I got an offer to join Williams in Chicago. This was a real pinball company! I met with their new President, Michael Stroll, and most esteemed pinball guru, Steve Kordek. Steve was the man who designed Space Mission and I definitely knew who he was; Mike Stroll was also familiar to me, having read everything about the business I could get my hands on. I accepted the offer in a heartbeat and moved my family and belongings within a month. I have been at Williams ever since.
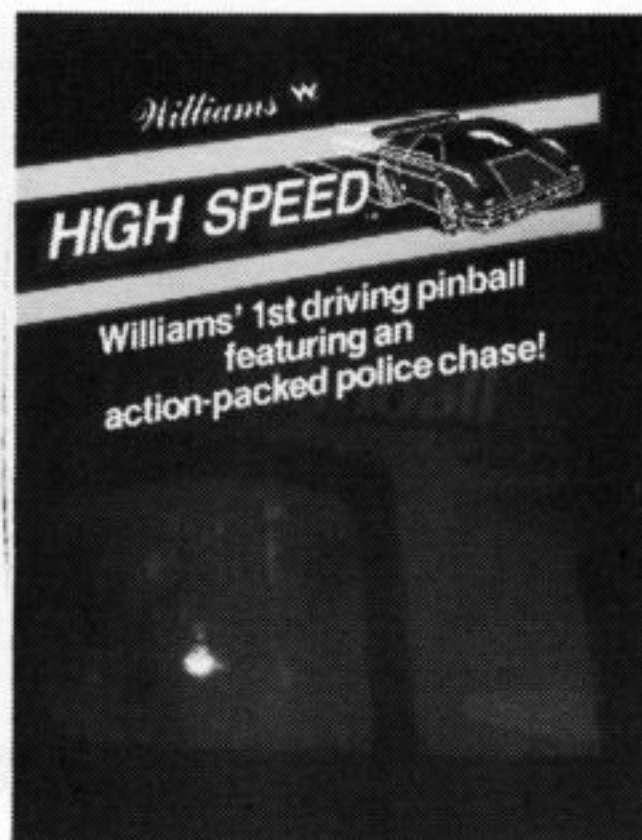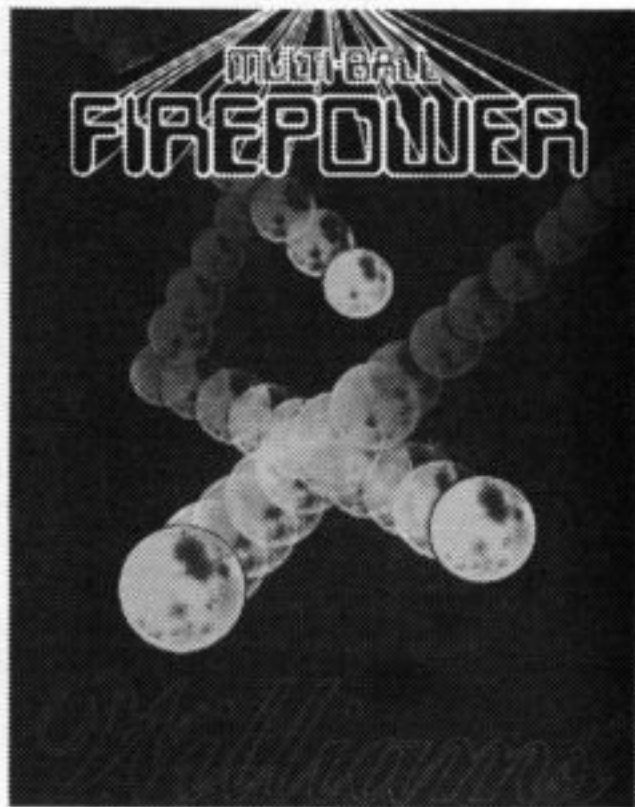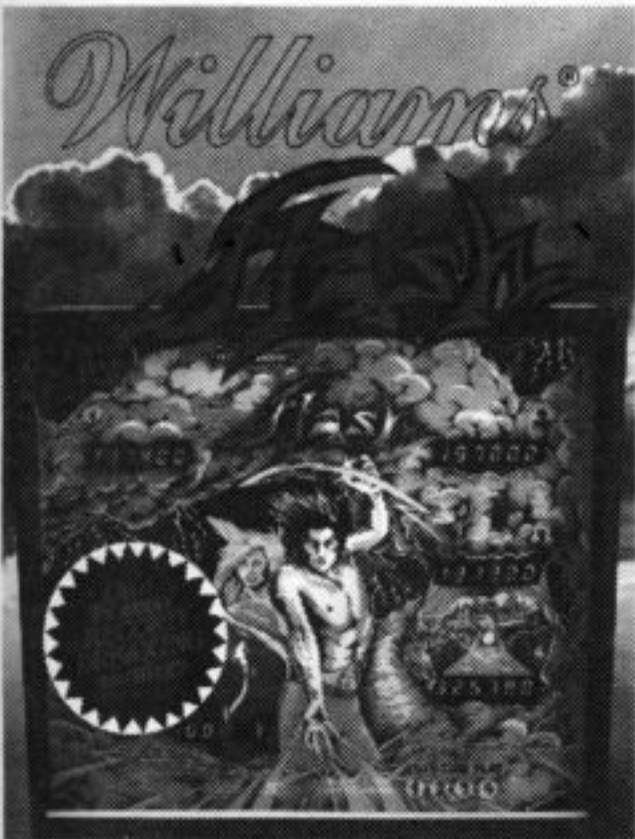
FS: *You've been in the business a long time. How has it changed and how has game design changed?*

SR: Game design is always chaning. We, (the game designers), are on a quest for the new and exciting features that you see in pinball. Only games with the most fun features and action become successful. Market needs are also addressed when it comes to cost and durability factors. Right now, the game designer's challenge is to build a strong-earning pinball for less money. Whenever I talk to operators, the first thing they bitch about is the cost of the new pinballs. The economics of pinball manufacturing are kind of scary right now.

Forgive me for mentioning video games, but the following must be said: video games have a great advantage over pinball because they consist mostly of electronics. Electronics always go down in price rather than up. Even though a given video game may cost more than its predecessor, it probably is also more advanced, faster, and has better graphics or more and cheaper memory to store more images and information. While a video designer may have some cost constraints, he is more likely going to end up with a higher technology game even if he keeps his cost the same. Also, what's to break on a video game? A joystick or switch might have to be changed or adjusted now and then. Overall, it is the mechanical things that break. Most video games just aren't very mechanical.

Not so with pinball. The costs of wood products, metal, plastic, and glass continue to climb upward and now have reached a point where every post on a game is carefully considered. Unfortunately, the earning power and price per play have not increased to the same degree as the costs. There are other factors such as resale value and location demand that keep the pinball business flowing. Pinballs must be maintained and clean (like Steve Epstein's), to play well and make money. (No money-No Broadway Arcade, No Williams, etc.). This maintenance costs money too. These are the problems we are trying to solve now.

The process of game design has changed a lot for me in the last 2 years. I learned CAD-Computer Aided Design-almost 2 years ago. No Fear is my first completely CAD-designed game. It is a great benefit with a positive effect on creativity and speeds up the process of trying many ideas quickly. Most importantly, it has allowed more than one person to work on a playfield at the same time. On NO FEAR, I trained 2 apprentices, Pete Piotrowski and Scott Slomiany. They helped greatly in the solving of problems and rapid fire fixes. We completed the project in only 5.5 months. I never picked up a pencil. I no longer have a drawing table in my office, or at home. This is a major step forward. Larry DeMar used to guage the progress of my drawings by the pile of electric eraser droppings around my drawing table. Erasing a lot usually meant that I was busy integrating all the features and shots into a smooth playing package that I could be proud of. A game that was erased and changed a lot was sure to be good, if you

FIREPOWER

HIGH SPEED
Williams' 1st driving pinball featuring an action-packed police chase!

F-14 TOMCAT
It's fast. It's furious.
AND IT FIGHTS BACK!

listened to him.

I have also been Director of Pinball Design for more than a year. It has been a juggling act to make games and help others make theirs. I believe in as little interference as possible. This is how Steve Kordek managed us, and I appreciated the freedom to create. This atmosphere os freedom is what has brought Williams/Bally/Midway its success. That and the many hours of work above and beyond a "real" job. Most of us average 60-70 hours a week during a project. During one period of NO FEAR, I worked 35 days in a row, at least 12 hours each. "Us" means designers, programmers, artists, mechanical engineers, and sound guys. Other support people often put in many extra hours also. This will never change.

FS: *Where did you come up with the idea of a double level playfield?*

SR: Many designers talked about making a multi-level playfield. I remember conversations with Harry Williams when he saw BLACK KNIGHT. He mentioned that he always wanted to make one. Steve Kirk, Steve Kordek, Jim Patla, and almost every game designer (including myself) talked about doing a multi-level game. I think that the idea was obvious, but the execution elusive. I'm just the guy who figured out how to do it. There were quite a few problems with manufacturing such a game, and it made the design time longer and more difficult. While I think that it was an important step in the evolution of advanced pinball design, I think it ended up becoming just another type of pinball feature.

It is difficult to develop a multi-level game in that the play of the game is harder to control from the designer's point of view. This becomes especially difficult from a ball-time standpoint. You want to make the upper playfield(s) accessible for the masses, but you don't want better players abusing the game by staying on the upper levels too long which can mean poor earnings. Upper levels are always "farther" from the drains. To add a drain that connected to the outhole from the upper playfield would be unthinkable in my book. So you have this dilemma as well as several others that make it difficult but certainly not impossible. I think these problems might have scared off others' serious attempts to make a multi-level pinball. I like to take risks. I probably do my best work when I'm a little frightened by the possible outcome of a design. I notice that I also ride my off-road motorcycles a bit better and faster when I'm about to attempt difficult hillclimbs or other hairy stuff. When you succeed, the adrenalin rush is so good. When you fail, it hurts more than the safe easy trail. I tend to take the hard lines.

FS: *What have been your greatest influences as a game designer?*

SR: This is interesting, but I rarely "go back to look forward." I kind of don't want to look at what's already been done; I like to create unique,
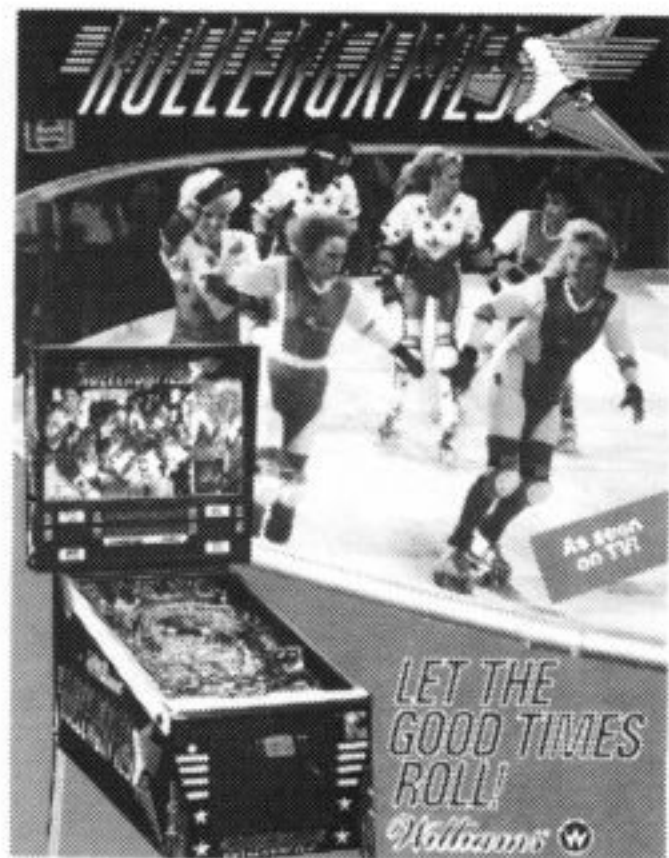
new features. As far as physical things go, I have to admit that I was influenced by extra flippers on a playfield. CAPTAIN FANTASTIC had an upper right flipper, and it became clear to me that it was a second center of player participation. I learned to crave smooth shots and a certain look from MATA HARI, another of my old favorites. (It's interesting to note that both of these games bore the artwork of Dave Christiansen. I want to make a game with Dave before I die, if it's possible.)

I think it's very obvious that I have copied myself from time to time. While I have a ball accelerator on NO FEAR similar to THE GETAWAY's setup, it is used to get a ball up a steep grade at the end of a long uphill shot. The magnets in the accelertor also double as a divider.

More often than not, my influences come from people, not machines. I have always appreciated Larry DeMar's input, especially on rules. He is clever and logical and has steered my playfield design in many cases. I have been influenced extensively by: (in no particular order), Eugene Jarvis, Roger Sharpe, Steve Kordek, Pat Lawlor, Dwight Sullivan, Matt Coriale, Greg Freres, Doug Watson, Carl Biagi, Dan Forden, Butch Ortega, George Gomez, Joe Joos, Ed Boon, Steve Epstein, Todd Erickson, Ken Fedesna, my son Chris, Neil Nicastro, Bob Jonessey, Chris Granner, Mark Ritchie, and lots of others who have given me ideas.

Ideas are all around us. If we choose to listen to people, and apply what we learn with the attitude that if it's good for the game, it goes in the game --*no matter where it came from*--we will be successful. This, of course, excludes the theft of others' ideas. I will not steal anyone's ideas. But if someone wants to give me an idea, (and it's good), I'll take it. It has always hurt the people who refuse outside ideas systematically; who insist that only their own ideas are worthy of pursuing. The word "outside", however, does not mean outside of the Williams/Bally/Midway realm of manufacturing, distribution, and test segments. Sadly, it must be kept that way. Too many people try to make a fast buck by sending us ideas that may be obvious, or in process. We have a policy of returning unsolicited ideas unopened or unread for that reason. Let me add that ideas, even great ones, are plentiful. It is the work of making a game appear, operate, and become fun that separates napkin drawings from a working prototype. Not to be accused of being elitist, a would-be designer must live the game, live the industry and live the art of making pinballs.

Pinball design, at least in the solid state era, has been a team effort. In my case, we have regular team meetings to discuss the progress, strengths and weaknesses and new ideas. While I act as a filter most of the time, we decide often by consensus what to TRY next. We TRY almost everything suggested and discuss the results when complete. We listen to other "educated" opinions, and the opinions of other player/employees who aren't engineers, and often hear good criticisms of the game. Later during test in arcades and

LET THE GOOD TIMES ROLL! Williams

Black Knight

He rides again.

POWERHOUSE PINBALL FROM *Williams*

taverns we hear more input, and try to react to this also.

Last, but most importantly, the operators and players influence my designs. Games should be easy to work on, hard to cheat, and not so complex that players are baffled by the rules. They should be easy to clean and designed to last. They have to look good, and have usable diagnostic and auditing abilities. And, above all, they must WORK, and be FUN to play.

FS: *What has been your most personally satisfying game and why?*

SR: In the most recent era, I would have to say T2, with ST:TNG running a close second. It is always a thrill to work with "movieland" especially when you personally love the subject matter. Terminator was on my list of all-time favorite movies from the moment I left the theater. When the opportunity to do the pinball license for TERMINATOR : JUDGMENT DAY was discovered, I jumped at the chance. I knew that this was my kind of movie-game.

We got to meet Jim Cameron, the producer/writer/director of T2. He was very personable and gave us ideas. Stan Winston, the effects and costume genius gave us masks and access to pre-production art. It was thrilling to finally capture the voice of Arnold Schwarzenegger speaking our script and, of course, his trademark answer from the original T movie spoken through the door to the building janitor's question..."ya got a dead cat in there?" We didn't ask for the off-color line; in fact, I think it was directed at me.

The game became a big hit and it seems to earn well for years. We had fun making the game; almost every day was exciting. I still go to T2 first when I play in my basement arcade. The game didn't hae a lot of problems, and became something our team was very proud of. The rules were different and fun; the cannon, gun grip, video mode, and "Payback Time" were firsts. Williams did well in that price was low, yet the game had the best profit margin of all-time. No one lost money on T2, and that is an important factor when considering pinball economics.

STAR TREK: The Next Generation was a license I pursued personally. We went to Paramount to discuss obtaining the rights, and it was a great experience. Paramount Studios is a "closed-lot studio, as they all were in Hollywood in the 30s and 40s. They were very protective of the license, fearing that we would turn the crew of the NCC 1701D into "Space Pirates from Hell". I was grilled about ST philosophy and the Prime Directive. Having watched every episode ever made, I had all the right answers. I loved the old show and all the new ones. No Starship Captain will ever upstage Patrick Stewart, though.

After the first discussion we broke for lunch and visited the commisary. As I ate my lunch, who comes strolling down the aisles of tables, but Jean-Luc himself. He sits in the chair DIRECTLY behind me. I am thinking of the rules our hostess cited at the beginning of our meeting..."You may only speak to the Stars if they speak to you first.

Asking for autographs or pictures is strictly prohibited." I can hear his distinct, rich voice and realize how short he is in real life. And his head comes to a slight, but definite point.
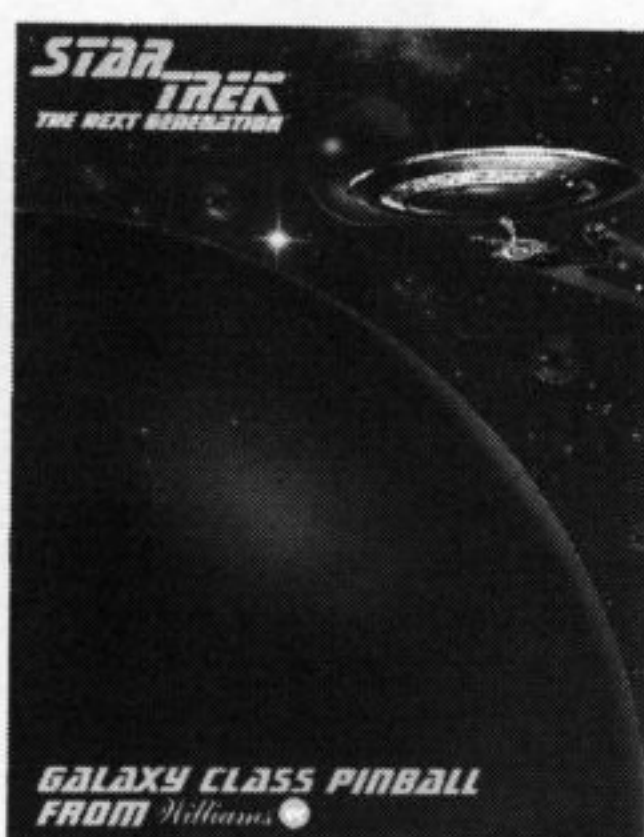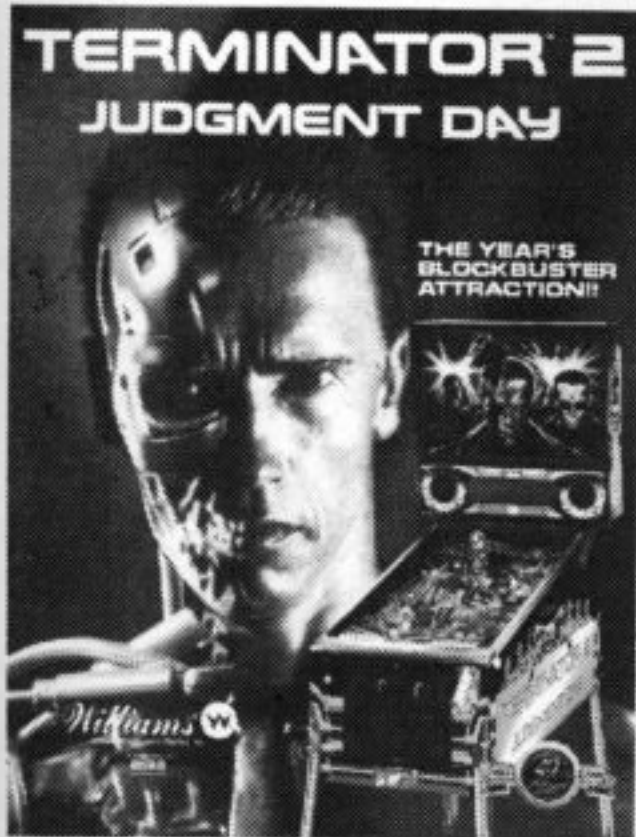
Later we walked on the "Bridge" of the Enterprise, and took a tour of the entire ship. It was kind of a bummer to realize that it was constructed of plywood with 25w open bulbs lighting up the displays and control panels from behind. To walk around the backs of the sets was devastating, yet we visited the Captain's ready room, engine room, sick bay, holodeck, transporter room, shuttle bay and 10 Forward. Gates McFadden smiled as we walked past, looking quite beautiful in her Starfleet uniform. She was being filmed in the sick bay laboratory. We later met Michael Westmore, the costume and prosthetics legend, Michael Okuda, Rick Sternbach, Dan Curry, and others for tech briefing and ideas they would've liked to see on the playfield. Their ideas were, of course, immediately rejected....not.

When we returned to Williams, we began the biggest pinball project of all time, consuming 14 months of development time. The major coup of the game was getting the speech of everyone in the crew and "Q", the crew's nemesis on the show. Every painstaking detail in every sector of the game's development was carefully considered. Greg Freres outdid himself not only with the graphics, but all the molded toys and decorations he directed. We all got together on the rules, but Dwight Sullivan and Matt Coriale produced the largest amount of code ever assembled in a pinball machine. With over 12 pages of single spoken lines, 13 original tunes and the most spectacular sound effects ever (as far as I'm concerned), Dan Forden went to the wall for this game. Carl Biagi went all out for the largest amount of mechanical engineering ever required in a pinball design. And Jerry Pinster did a fine job sculpting our toys.

When it was finished, we knew we had a winner. The game broke records for pinball earnings at arcades, and the earnings have stayed very high considering its age. It was a good rush and an unforgettable project. At the spring 95 ACME show we were proud to accept Playmeter Magazine's Most Played Pinball of 1994 award. We also received the highest award (Diamond) from the AAMA. Honors like these are tough to come by, and our team appreciates the players' enthusiasm. Without players there would be no pinball. Incidently, we shared the stage with Steve Epstein, who received Playmeter's Operator of the Year Award. Finally. Steve has deserved this award for many years, and has always been one of the Ultimate Champions of Pinball. He, like Roger Sharpe, finds something to like in all pinballs.

FS: *What game was your biggest disappointment and why?*

How dare you ask me that! Can't we just leave those in the closet? No...we cannot. Every designer has made games they aren't especially proud of. They must be chalked up to experience, and much can be learned from failure. OK...it's ROLLERGAMES. I picked the wrong theme, the playfield was spazoid, the speech annoying, and it didn't work well. I made a lot of mistakes. The capper: Rollergames (the

TERMINATOR 2 JUDGMENT DAY

THE YEAR'S BLOCKBUSTER ATTRACTION!!

Williams

SHIFT INTO HIGH GEAR!

THE GETAWAY

STAR TREK THE NEXT GENERATION

GALAXY CLASS PINBALL FROM Williams

PLENTY OF... AIR WATER DIRT ASPHALT SNOW

TV show), went off the air as we began making samples. The world was better off—the show sucked. I am told that some people actually like the game.

While few people know this, almost every game we make gets a derogatory name from others in the company; usually this is just a joke on the designer, said in fun. When a game is generally bad though, the internal name sticks. We called the game "Rollerpile". I still do. I can only divulge the names given for my games out of common decency. Ready? HIGH SPEED was considered very expensive, so Barry Oursler named it "High Cost", BLACK KNIGHT was called "Black Nightie", FIREPOWER was called "Firewood". Barry called FLASH "Flush".

The terrible first whitewood of a certain widebody disgusted me after playing it for a few minutes. I was disgusted because I created the abomination and knew that I had to go back to the drawing board.

Bigtime. After a few hours of re-infecting myself with dread and hatred, it was clear that not one thing on the playfield was worthy of keeping. Everyone who was near me that day in the labor heard me cursing the horrid dung-heap, bemoaning the waste of maple plywood. The next morning I was shocked to see the lights in front of my targets carefully marked with tape and felt pen. The spellout said "P-I-G-S I-N S-P-A-C-E". I laughed with everyone that morning, realizing that nothing should be taken too seriously. I took the playfield out of the cabinet and threw it in the dumpster, then went back to my office and re-drew the entire game. The spellout on my next whitewood read S-T-E-L-L-A-R W-A-R-S.

Some minor bummers: I was disappointed with the way F-14 worked. There were a lot of problems with the mechanics, things I could have done better. While I was hoping that HYPERBALL would be a runaway hit, it had mechanical problems. I guess it was more a

novelty game than a pin. It sold well for a novelty, but not what I expected. And SUPERMAN required 4 whitewoods to arrive at the final version, but at least the end result was decent.

FS: What are your favorite pinballs?

SR: Here's my TOP 10 of all time:

1. TERMINATOR 2: JUDGMENT DAY (for the rules, shots, thumper action, cannon and theme)
2. BLACK KNIGHT 2000 (for the challenge, music and ruthlessness)
3. FIREPOWER (for the shots, rules and thumper action)
4. HIGH SPEED (shots, rules, art work and sound package)
5. STAR TREK:TNG (for the theme, rules, music, speech and variety of shots)
6. INDIANA JONES (for the rules, shots, music and theme)
7. FIREBALL (the original cool EM multiball game)
8. SPACE MISSION (for the shots, rules, backglass art)
9. SINBAD (cool drop targets, great spinner)
10. CAPTAIN FANTASTIC (for the artwork, rules and 3rd flipper)

What I can play regularly affects my choices and, of course, my own games in my basement are always available and bias my judgement. In my basement I can play STAR TREK:TNG, T2, BK2K, and HYPERBALL. I would be lying to say that my own games are not some of my favorites, and that's how it should be.

Other favorites are ADDAMS FAMILY, FISHTALES, CLEOPATRA, HOLLYWOOD HEAT, BLACK KNIGHT, FLASH, and THEATRE OF MAGIC.

FS: How would you define your role as a pinball designer today?

SR: My role is still the same. I try to come up with new designs and features that are fun enough to make money. Fun is the main ingredient. I know that when good pinball is manufactured, sold, and makes money for the operator, it sustains pinball and promotes the sale of other pinballs, no matter who's building them. When there are a number of good machines earning big bucks, players, distributors, and operators tell us "Pinball is good. I'm going to buy more". Conversely, when there are games not making money and not being played they say that pins are bad investments and buy fewer games.

What I'm getting at is this: It is our responsibility to make good machines that people want, even love, to play. Every day at work I consider that there are many people that depend on my good work. All the people who assemble and support the manufacturing of pinballs have jobs that they desperately need. At Williams/Bally/Midway the manufacturing people are permanent employees, not temporaries like all the other factories hire. When games are not being built, they go home with no pay. When production runs are short, or there are gaps in production they have no job to go to. Fortunately, this hasn't happened much since 1984. It is a great motivator for me.

I have another role today, as Director of Pinball Design. I am one of the "older" guys now. (The facts say that I'm 45 now but don't believe it. I'm really only about 12 or so, mentally that is. *Maturity is not one of my strengths.* I still have my hair, and remarkably, no gray. Except the gray beard. I could shave it off, though. Greg Freres calls me The World's Oldest 7th Grader. I like it...I think it's a very nice compliment.) Anyway, I try to help the other designers here, and help steer Engineering in a direction that is good for pinball.

FS: Where do you see the future direction of pinball going now?

SR: I can only see my perspective on this. And to some it might seem grim, but I hope and wish that the player base for pinball will grow. At this moment, I believe that pinball is not the desired form of coin-operated amusement. Kids come to my house often. I notice that on their first visit, they attack the pinball machines and play them continuously. During subsequent visits, they have little interest. If I fire up the Super Ninendo or Sega 32X games, pinball is totally

ignored. Pinball has become the preferred game of baby boomers and college-aged people. The age bandwidth that is excited by pinball is closing from both ends. Obviously, home and arcade video have affected our young people. So has computer software. It has affected me at various times during my career.

I am a born gamer. Ed Boon (MORTAL KOMBAT and software on F-14 and BK2K) turned me on to home computers and computer games became an important pastime for me. I can see why people like them. I play pinball every day, but I don't play my computer games every day. Pinball requires much more physical involvement. You can't just sit in front of a monitor and push buttons. Maybe kids are intimidated by the fact that they must play in an arcade, maybe they're not big enough to see what's going on. Maybe they just don't care about pinball. Some kids even say "I can play pinball on my computer at home", but few households have a real pinball in their basement where they can learn to play and get good privately, like their Nintendo games. No one likes to look like a sweeb in public.

Pinball must change to accomodate these younger players, in my opinion. If I knew how to do this, I would not talk about it during an interview, because it would be a secret worth guarding. I know how to get older men and women to play pinball feverishly. Put a payout coin hopper in the spot where the coindoor was! (HERESY!!). My point is, that the expansion of legalized gaming in the U. S. and abroad is seriously reducing the desirability of pinball. Pinballs cannot compete with any kind of gambling machines.

I don't know what kind of pinball we will see in the future, but I know that I will have something to do with the shaping of a new era. It would please me greatly to see a growing market instead of a shrinking one, and since the pinball market has constantly gone up and down over the years, I see no reason to believe that it won't become popular again.

FS: Is your family supportive of your career?

SR: Extremely. Dianna, my wife of 23 years, has not always been thrilled about my long hours, but has gotten used to it, I guess. If it weren't for her, I would *be*, and *have*, nothing. I'm a "Gyro Gearloose". I become enamored with devices or the project Du Jour, forgetting everything important, losing my sunglasses, and locking my keys in the car. I will forget to pay bills, feed the cats, and go to the bathroom. Sometimes I barely make it.

I don't have a file cabinet. The only paperwork I save are test reports. And they are not in any particular order. Dianna does it all. I am good at fixing or building anything, so I'm good around the house. I don't garden. She does. I love her for many reasons, but one of the most important is her intuition. She warns me of impending danger. She is an amazing judge of people and situations. I began to *really* listen to her in 1984. Before that I was *always* stubbornly controlling. When people talk about women's intuition, believe them.

She has taught me about dealing with people, and where to draw the line between passionate fanatic devotion to something, and real life. I still cross the line. She has amazing patience and is a wonderful loving mother. Living with me is no picnic. I'm grateful that she's been there for me.

My 10-year-old daughter, Margaret-Ann, could care less about pinball. She likes to read to me and is creative in everything she does. She suggests a Snow White and 7 Dwarfs theme for a pinball design, and loves playing with the computer. She's been dealing with Windows, CD roms and America On Line way more than I have. She's very bright and I'm proud of her.

My son Chris is nearly 20 and attends Southern Illinois University at Carbondale. He has begun his 3rd summer of working as a tech in the whitewood lab. He has interesting ideas, some of which have appeared in my games. People like him better than me, because he's nicer! He has always enjoyed the fact that I design games, and can kick my butt on BK2K. He loves mountain biking, gnarly rides on his dirt bike, and games of all sorts. He is studying Art and Design. I'm proud of the lad, obviously. He's going to be a game designer.

THE PROFESSIONAL AND AMATEUR PINBALL ASSOCIATION
SILVER BALL LEAGUE - 6/13/95
FINAL STANDINGS AND LEAGUE STATISTICS AFTER 10 MATCHES

	Player	Points	Average	Record			PEPGA
9	PAUL CHEN	509.0	347,040,847	37.0	24.0	19.0	6.36
8	JIMMY ZOTOS	503.0	411,256,138	35.0	27.0	18.0	6.29
7	KEVIN DOLORICO	489.0	355,102,059	37.0	19.0	24.0	6.11
4	ROBERT BRILL	440.0	344,335,594	32.0	18.0	30.0	5.50
3	VICTOR MERCADO	427.0	425,194,167	23.0	35.0	22.0	5.34
6	FREDDY RUIZ	406.0	281,741,193	18.0	41.0	21.0	5.08
5	DAMON VIGIANO	397.0	311,991,226	25.0	23.0	32.0	4.96
1	DAVE LEVINE	364.0	226,846,496	20.0	26.0	34.0	4.55
2	PETER HENNIG	305.0	198,804,861	13.0	27.0	40.0	3.81

STATISTICS FROM LAST MATCH

	Player	Points	Average	Record			PEPGA
3	VICTOR MERCADEO	56.0	734,565,471	4.0	3.0	1.0	7.00
1	DAVE LEVINE	52.0	200,535,188	4.0	2.0	2.0	6.50
6	FREDDY RUIZ	48.0	313,944,763	4.0	1.0	3.0	6.00
7	KEVIN DOLORICO	46.0	504,839,230	2.0	5.0	1.0	5.75
8	JIMMY ZOTOS	43.0	562,742,648	3.0	2.0	3.0	5.38
9	PAUL CHEN	39.0	288,175,633	3.0	1.0	4.0	4.88
5	DAMON VIGIANO	38.0	484,863,390	2.0	3.0	3.0	4.75
4	ROBERT BRILL	34.0	473,224,502	2.0	2.0	4.0	4.25
2	PETER HENNIG	28.0	129,555,208	0.0	5.0	3.0	3.50

PEPGA (Point Efficiency Per Game Average), trademark (TM) PAPA, utilized for handicapping in pinball tournaments and leagues.

THE PROFESSIONAL AND AMATEUR PINBALL ASSOCIATION
ALL PRO LEAGUE - 6/14/95
FINAL STANDINGS AND LEAGUE STATISTICS AFTER 10 MATCHES

	Player	Points	Average		Record		PEPGA
1	NINT HOO	504.0	786,534,955	36.0	25.0	19.0	6.30
8	DAVID HILL	485.0	958,737,697	29.0	36.0	15.0	6.06
3	HARRIS PANKIN	458.0	798,496,504	30.0	27.0	23.0	5.72
2	GARY LEVITAN	447.0	1,353,454,491	31.0	22.0	27.0	5.59
7	ALBERTO SANTANA	433.0	1,000,874,923	29.0	23.0	28.0	5.41
4	SAM FIELD	426.0	547,800,159	26.0	28.0	26.0	5.33
6	DWIGHT GREEN	420.0	676,471,401	28.0	22.0	30.0	5.25
9	JOHN MARTEL	361.0	518,137,205	17.0	32.0	31.0	4.51
5	TOTAL ALL PLAYERS	306.0	468,659,328	14.0	25.0	41.0	3.83
	TIM POST	44.0	626,096,017	4.0	0.0	4.0	5.50
	DAVE PELLER	262.0	451,166,363	10.0	25.0	37.0	3.64

STATISTICS FROM LAST MATCH

	Player	Points	Average		Record		PEPGA
7	ALBERTO SANTANA	52.0	2,024,516,773	4.0	2.0	2.0	6.50
8	DAVID HILL	52.0	1,904,117,036	4.0	2.0	2.0	6.50
4	SAM FIELD	52.0	557,384,690	4.0	2.0	2.0	6.50
3	HARRIS PANKIN	47.0	1,283,056,918	3.0	3.0	2.0	5.88
5	TIM POST	44.0	626,096,017	4.0	0.0	4.0	5.50
2	GARY LEVITAN	42.0	2,519,551,648	2.0	4.0	2.0	5.25
6	DWIGHT GREEN	34.0	1,236,006,935	2.0	2.0	4.0	4.25
9	JOHN MARTEL	32.0	428,237,671	0.0	6.0	2.0	4.00
1	NINT HOO	29.0	965,839,681	1.0	3.0	4.0	3.62

BIG APPLE LEAGUE - 6/19/95
FINAL STANDINGS AND LEAGUE STATISTICS AFTER 10 MATCHES

	Player	Points	Average		Record		PEPGA
7	RALPH SCOTTO	589.0	527,030,246	45.0	26.0.	9.0	7.36
4	KOI MORRIS	509.0	301,618,414	37.0	24.0	19.0	6.36
5	ALESSANDRA FERREIRA	496.0	328,976,168	32.0	32.0	16.0	6.20
8	RAYMOND COSTANZA	489.0	450,209,167	33.0	28.0	19.0	6.11
6	STEVE SCHWARTZ	454.0	299,686,384	30.0	26.0	24.0	5.67
1	THE BOY	422.0	183,141,392	26.0	27.0	27.0	5.28
2	LAURIE MIESEL	398.0	318,181,239	22.0	30.0	28.0	4.97
9	ANTHONY STABILE	338.0	182,462,482	14.0	33.0	33.0	4.22
3	JOHN SABALA, JR.	145.0	78,646,442	1.0	14.0	65.0	1.81

STATISTICS FROM LAST MATCH

	Player	Points	Average		Record		PEPGA
1	THE BOY	70.0	251,503,175	6.0	2.0	0.0	8.75
5	ALESSANDRA FERREIRA	60.0	554,201,903	4.0	4.0	0.0	7.50
6	STEVE SCHWARTZ	52.0	473,198,618	4.0	2.0	2.0	6.50
7	RALPH SCOTTO	52.0	370,475,622	4.0	2.0	2.0	6.50
9	ANTHONY STABILE	50.0	121,751,132	2.0	6.0	0.0	6.25
4	KOI MORRIS	42.0	373,952,166	2.0	4.0	2.0	5.25
8	RAYMOND COSTANZA	34.0	200,043,232	2.0	2.0	4.0	4.25
2	LAURIE MIESEL	16.0	203,492,350	0.0	2.0	6.0	2.00
3	JOHN SABALA, JR.	8.0	19,052,192	0.0	0.0	8.0	1.00

PEPGA (Point Efficiency Per Game Average), trademark (TM) PAPA, utilized for handicapping in pinball tournaments and leagues.

Paul Chen - 1st Place - Silver Ball League

Nint Hoo - 1st Place - All Pro League

Above left:
Jimmy Zotos - 2nd
Place - Silver Ball
League.

Above right:
David Hill - 2nd
Place - All Pro
League.

Bottom left to right:
Harris Pankin - 3rd
Place - All Pro
League.

Jimmy Zotos - 2nd
Place - Silver Ball
League.

Ralph Scotto - 1st Place - Big Apple League