

MARCH, 2003

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Used to be, a slot machine was plopped down on the floor and it stayed there for a decade. Every year, my wife and I would visit the Golden Nugget hotel in Las Vegas and my wife would visit the same S-plus "Double Diamond" machine, year after year.

While the "Nug" might still actually have that same machine, most properties go through a lot of refurbishment and machine changes. Kevin Noble takes us through one such adventure

in his presentation entitled "The Big Project." In it, he outlines, step-by-step, the procedures and coordination required to pull off a massive machine conversion project. Turn to page four.

Kevin might not have thought his project so massive if he knew what was going on at the Atlantis Hotel and Casino in Reno, Nevada. Even something as seemingly innocuous as a change of carpeting takes on a whole new meaning when slot machines (and money) are involved. Turn to page ten for the Lost Carpet of Atlantis."

Of course, the common thread between these two projects is obvious: Just who do you suppose provides the labor for these projects? The Slot Techs, of course. It's really amazing (to me, anyway) the amount of "no-tech" labor performed by these ostensibly "high-tech" workers.

Of course, part of what makes a casino a casino is lighting – not only the lighting of the building but the lights on the slot machines themselves. This month, Slot Tech Magazine presents two articles on the subject. The first is a general look at fluorescent lighting from Herschel Peeler. The second is on the subject of incandescent lighting for slot machines, from Joe Velas of JKL components. You can light up your life beginning on page 12.

TechFest 5 was held in February in San Diego, California. The event was held at the



spankin' new Barona Valley Ranch Resort and Casino. We had some really superb weather for the mid-winter event. The banquet staff performed beyond expectations, providing us with everything we needed (including lunch) for the three-day event. The whole thing was so successful that it will be an annual event at Barona. I have already booked the same location for 2004. Coverage of the event is limited to just a single page here in the magazine. For additional photos, including a downloadable class picture, please visit the website at slot-tech.com.

The ICE show was held in London at the end of January, 2003. This was WAY past the deadline to make it into the February issue of Slot Tech Magazine. Look for extensive coverage in this month's issue.

As a wrap-up, Scott Reynolds reports in to give us an update on his progress into the world of the Las Vegas slot tech. His report begins on page 34.

That's all for this month. See you at the casino.

Randy Fromm

Randy Fromm - Publisher
March, 2003

Randy Fromm's Slot Tech Magazine

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The Big Project

By Kevin Noble

the Gaming Commission. The selection of game manufacturers, themes, and percentages is also handled by our Slot Operations Manager and the planning staff at our warehouse.

The Plan

The Plan, as outlined by the Operations Manager and the warehouse personnel, is to have "Royal Flush" come in and replace two banks of bases at 7:00 am (Thursday) and the truckload of 42 games arriving around 11:00 am. A crew of five technicians will accompany the truck from the warehouse to help assist us with this project. Gary Smith, along with the install crew, prepped all the games for all sites at the warehouse. All the games have been set and cleared, and Mikohn installed to help speed up the installation process. AGCO will seal the CPU boards at 10:00 pm and AGCO final inspection of all games at 8:00 am the next morning (Friday).

DAY # 1 (Wednesday Morning)

The day begins with a brief meeting with Chris Spence (the Midnight Tech) regarding what was accomplished with the first wave (42 games)

swap that is to begin in two days. The prep work has begun. The games have all been disabled, the meters sheets for Soft, Hard and Mikohn have been filled out, and all of the games have been un-impressed. This was all accomplished by the afternoon shift and the lone Midnight Technician around 9:00 pm. Chris continued on with removing the BVA locks and signing them into the Security office. Once all the information has been passed on from Chris, the day shift takes over and we develop a game plan to tackle this project.

Alex Trinalles, Reggie "it's all up to me champion" Wood, and I make up the Day Technicians. On the start of this project we are faced with a total of six games that need AGCO'S attention. We will lose one technician to the AGCO officer. The technician must accompany the officer at all times to open and close the doors for him, removing the CPU board for seals and verification. We would also lose a technician who is available at the time to any floor calls.

We start with the unsealing of the game EPROMs along with AGCO's inspection of the meters sheets, slug envelopes, and any tampering of any

Our site is about to embark on a four-phase project, involving the removal of 180 reel games that will be swapped out with new video games. Each phase involves four banks of machines that total approx. 40 games per swap on four different days in a two-week period. The last phase will consist of approx. 59 games (It was originally planned for two different phases). Each day should mirror the others so I would like to share my experiences of the first phase with you.

In the first phase, there are four banks of machines. A bank of 20 machines and 8 machines (bases will be swapped out because the Williams video games require longer bases) and a bank of 4 machines and 10 machines. We have been notified that all the "REEL EM' IN" games have EPROMS that are not approved and will be shipped in a couple of days. The project involves making a plan, analyzing the floor and submitting the plan for approval to



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locks on the game. We also remove all the CPU locks on the IGT reel and Bally reel games during this inspection. After these locks are collected, they are signed-in to Security. All the CPU boards are also collected and carefully placed in large shipping containers to be shipped out with the games. Upon completion of the inspection, the AGCO officer begins to work on the six games that need final inspections with Alex so we can have these games up to the public.

Reggie and I begin by removing all the belly glass, drop, fill, and door locks on the first bank of 20 games. Later during the process, Alex will join us after he is done with AGCO. These locks, once removed, are signed-in to security. We begin unbolting and unwiring the bank. We continue on with the next bank of 4 games, then the bank of 10 (these two banks do not need the bases changed). At shift change, we relay what needs to be done to the next team. Ray Underwood, Rolland Tarte, and Steve Beaudoin (midnight Technician) continued on with last bank of 8 games. Removing all the machine locks and base locks, unbolting the games, removing all the Mikohn wiring and the splitter boards will be on their agenda for the night. All games must be unwired, unbolted, and all locks removed by 7:00 am because "Royal Flush" will be in to swap out the banks that need the new bases. All cash box locks (82) would be removed and signed in.

DAY #2 (Thursday Morning)

This day begins with a pre-shift meeting with Steve. All chores were completed as planned from last night. Today, another three Technicians, Andrew Randall, Chris Magnum, and Chris Spence join the team. Our first priority is to remove all the games from the banks and have them ready at shipping and receiving when the truck arrives. "Royal Flush" is on time and they start to swap out the banks needed and add the 3-inch spacers on the 10 game bank. Security starts their inspection for coins in the games and in the bases. Once completed, the games are escorted across the floor for shipping.

Gary Smith (Senior Technician at our site) arrives around 11:30 am with the rest of the crew to help with the install. Their main goal will be the bolting and wiring of all the new games coming onto the floor. The truck arrives around 12:30 pm. They start by unloading all the new games onto the floor and reloading the truck with the games that came off our floor. We verify each machine's serial number and assign the games locations. Gary and the crew begin bolting and wiring the games on the bases that "Royal Flush" have completed. The rest of us split up. Each Technician is assigned installing locks: The main door, belly glass, CPU, and cashbox locks. One person starts by removing and programming the IDXs and I am left in the shop to verify the

correct EPROMs are on the boards with the slot file. We also write in marker the location and asset number on the CPU board. The M.E.A.L books, location, asset tags, and meter sheets are all laid out for the games once they are ready for testing. AGCO is called in at 4:00 pm. to start to verify and seal the EPROMs on the CPU board. Once all the games have their machine locks installed, the CPUs can be placed back in the games. The last technician, Sean Cauldfield, arrives early from the afternoon shift to help with the installation process.

Day #3 (Friday Morning)

The third and final day, or is it? Today, during the pre-shift meeting with Steve, we first discovered from the install crew that all the games are now completed and wired. The last bank that was done by "Royal Flush" still needed drop, fill, and electrical access door locks installed. A handful of machine door locks need to be installed, and the first bank of games that we started (20 games) needed to be 6-point inspected and then AGCO called in. Starting today is Alex, Chris M., Reggie, Andrew, and myself. At 8:00 am, the install crew and AGCO arrived. I asked an AGCO to remove a seal from a game in order to perform a RAM clear, and he begins his inspections of the first bank. The rest of the technicians split up and start on all locks, while impressments start filling up the machine, and installing the cashboxes.

My responsibility starts with the games that failed our inspection. I am handed a list from Steve with a hopper problem, a backplane error code, and two games not communicating with the Mikohn system. The final 22 games are now being coin tested, bill tested, and undergoing our 6-point inspections. Smaller details such as decals, disclaimers, and problem gambling stickers are peeled and stuck to the games.



These guys are Gary Smith (Windsor), David Dalli (Toronto), Reg Dubois (Sudbury), Gerald Beteau (Fort Erie), Jamie Tarzwell (London), me, Jerry Pastuovic (Burlington Warehouse) who was leading this crew, and Rocko (not pictured) OLGC'S project planner.

I received a call around 11:00 am. All the "REEL EM IN" EPROMs have arrived. I was also notified that another three CPU boards needed unsealing and RAM clears. I completed this task, along with the setting of options.

By 4:00 p.m., all games have been coin tested, bill tested and 6-point inspected. The first bank of games are in play to the public (except the REEL 'EM INs) and the afternoon AGCO inspector is in, doing the last of the sealing and

final inspection of the games. This should be completed by late night or first thing tomorrow morning. When arriving back to work on Tuesday, I found out that the games were all up to the public on Saturday afternoon.

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The Installation Crew (Thanks a Bunch)

I cannot imagine what it would be like without these six guys. These guys came together from different OLGC sites throughout the province of Ontario, installing all the Mikohn, performing the set and clears back at the warehouse in early December. Starting in Ottawa and completing the installation there, they arrived here in Windsor. Their travels will take them across the province to places like Sarnia, and Toronto to name a few. They had unloaded, and reloaded the truck, bolted and wired the bases, installed locks, performed coin and bill testing, and did 6-point inspections. I have to give them a standing "O" for all their efforts.

These guys are Gary Smith (Windsor), David Dalli (Toronto), Reg Dubois (Sudbury), Gerald Beteau (Fort Erie), Jamie Tarzwell (London), me, Jerry Pastuovic (Burlington Warehouse) who was leading this crew, and Rocko (not pictured) OLGC'S project planner.

Honorable Mentions

One guy who was a valuable asset is Jim LeBlanc. Jimbo is the Slot Attendant Supervisor. Jim was able to attend many of the calls on the floor to see if he could repair any of the games so that a Technician would not be pulled off the task that they were assigned to accomplish. Thanks to Mr. Alex Lawson (Cage and Coin Manager) and the Im-

pressment crew as well. Alex was able to have his Impressionment teams available at a moment's notice when the games needed to have the cashboxes and tokens installed. Finally, thanks to Jerry Romaniello. Jerry is the Sensitive Part Controller Coordinator for OLGC operations. "Hats off to all you guys!"

Overview

Every project experiences problems and we had our fair share. Installing the new bases by "Royal Flush" took a little longer than we had expected. The arrival of the truck full of games was a bit late, the EPROMs were not approved, we had numerous floor calls, procedures to follow, arrangement of Security escorts, and machines that needed to be re-cleared, optioned, and resealed. Asset numbers on the game

were changed during the project and all the CPUs and bases had to be changed.

This project could have run a little smoother but the goal was to complete this project in the time frame that was planned for us. I think that under the pressure that we were all under, we came out of it in pretty good shape. We learned things that we could improve upon, and what to expect for phase # 2 (that will start on Monday). This time phase #3 is scheduled for Wednesday and we have only two days to complete what we did in three. Some good things also came out of this: Meeting a great bunch of Technicians from the other sites (I wish we had more time to sit and talk) and us pulling together as a department.

- Kevin Noble
knoble@slot-techs.com

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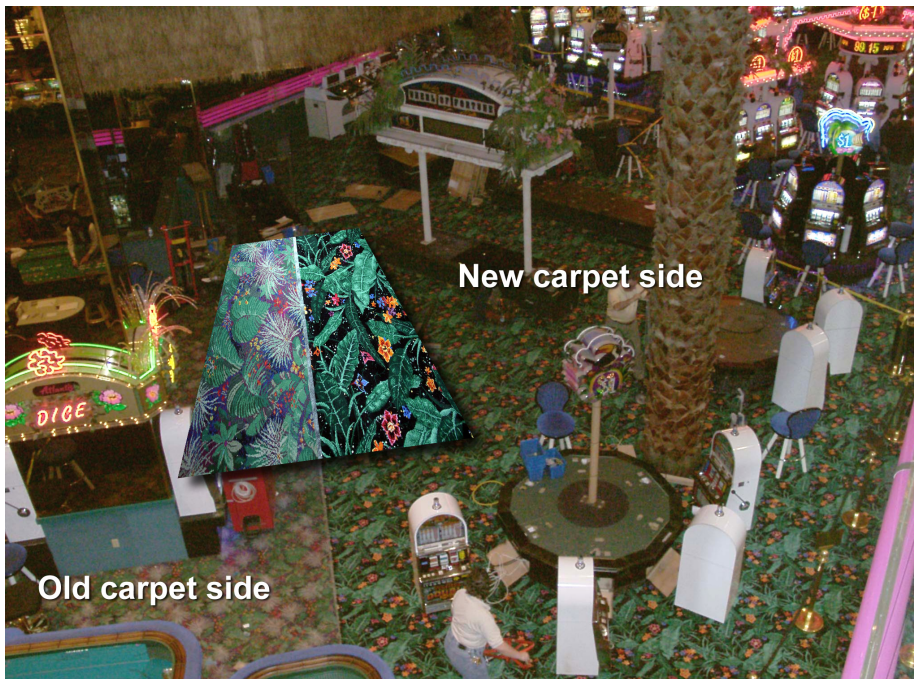
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The Lost Carpet of Atlantis



Subject: Atlantis-Recarpeting
From: Ciara Coyle
<pr@atlantiscasino.com>

Hello Randy,

Below is the information you and I talked about last week in regards to The Atlantis recarpeting. As you know, this is a very labor intensive Project that involves the expertise of our Director of Slots, Bob Bigelow and Our Slot Performance Manager, Roberta Mack. Of course, the Atlantis slot Techs are an integral part of the recarpeting process.



**Director of Slots, Bob Bigelow,
rewiring a bank of slot machines**

The outline below gives specifics about the install and walks you through the various stages And personnel involved in the project. Please let me know if you have any questions. Oh, would there be any way to get a few copies of the publication sent to us once it's printed? I would like to give them to the slot dept. so the techs and all those involved in the project can take a look at them. Thanks again!

Ciara Coyle - Atlantis Publicist (775) 824-4461
pr@atlantiscasino.com



The tech crew at Atlantis (l to r): Bill Damers, Doug Polder, Raul Guzman, Russell Arnold, Marc Heaman

Stats:

- 6,800 square yards/60 rolls of carpeting being laid over 38,000 sq. feet of casino space and in the Sky Terrace (Average house is 150 yards)
- Carpet made up of 18 colors
- specifically designed for Atlantis Casino Resort in conjunction with architect Peter Wilday.
- Pattern and color scheme exclusive to Atlantis.
- Carpet is 80% wool, 20% nylon and carries highest stitch count per square inch, making it the densest possible to the touch.
- 100-pound padding used underneath all carpeting for ultimate comfort of guests
- Cost approx. \$400,000 (not including labor and hours)
- Last replaced in 1998

Timetable and Installation

Entire casino will have old carpeting removed and new carpeting installed in 1 month.

- Team of approx. 25 people working on facets of the installation at all times.

- 3 to 4 slot team members and 2 security guards to take all coins out of machines, bag it and deliver to main cage
- 7 slot technicians on duty 24-hrs/day
- They are responsible for removing the slot machines from the system, removing light wiring and rewiring so that access to the player tracking system for that machine is stationary for the time being.
- 4 engineering techs come in to rip up the old carpet
- 6 people to install new carpet (must first lay down padding, wait for that to dry, then lay down carpet, glued to padding)
- 7 slot technicians + 2 I.T. technicians come back to re-wire slot machines back to all systems, then put machines back in their places
- Custodial personnel trails the movement of the carpeting process, vacuuming, replacing chairs, dusting and



Unfazed! This slot player was unconcerned by all the commotion and carried on as if nothing was different. You gotta love 'em.

overall cleaning of newly carpeting areas

- Install averaging 300 yards per day
- Because of high customer counts of weekend, not advantageous to install carpeting during these times.

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Above: Judy Demartini
Below: Ravinder Prashar



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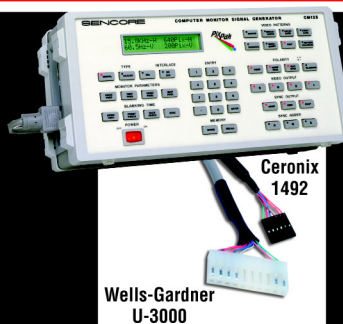
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Fluorescent Lamp Circuits Used In Gaming

By Herschel Peeler

AC fluorescent lamp designs have a circuit similar to the following in common. At the ends of the fluorescent lamp bulb are heaters. They heat the gas inside the tube, ionize it, and make it glow. Most of the radiation is in the higher region, heavy in ultraviolet. The heaters themselves radiate heavy in the infrared (wasted heat). The inside of the tube is coated with phosphor that glows white when exposed to the ultraviolet radiation. The most popular phosphor compound used in gaming glows a specific grade of white, called "Cool White."

When power is first applied, the tube is cold and does not conduct electricity. The current flows through the Ballast coil, through the heaters and starter, and back to the neutral line. The purpose of the starter is to provide a path for the current to pass through the heaters to get the gas ionized. The neon lamp drops

a voltage across it of about 70 Volts. Some voltage is dropped across the heaters. The rest is dropped across the ballast. Being an inductor, it is in essence, an AC resistor. All of the voltage dropped across the ballast is wasted power.

When the lamp first starts blinking, change the \$\$\$@#@\$*tube!

Once the fluorescent lamp starts to ionize and conduct, it drops about 60 Volts across it. Since this is less than the voltage that the starter requires to operate, the starter is essentially turned off, and no current flows through the heaters. The only purpose of the starter and heaters is to get the fluorescent lamp glowing in the first place. Once the lamp conducts, about 60 Volts is dropped across the tube. The rest of the voltage is dropped across the ballast coil as wasted heat. As poorly efficient as it is, this process still generates more light per Watt of energy used than an incandescent lamp, with a longer expected life.

The ballast coil, being an inductor, is sensitive to frequency. There are ballasts for 50 Hz operation and ones for 60 Hz operation. Most games are designed to run the lamps off of 120 VAC whether they are running off of 120 V or 240 V.

What goes wrong?

As the tubes get older, oxygen leaks in and the operating voltage of the tube raises to the voltage the starter works on. As the neon lamp starts conducting, there isn't sufficient voltage across the lamp to light the light so the light goes out. When the light goes out the heaters and starter kick in and the light comes on again, resulting in the lamp starting to blink.

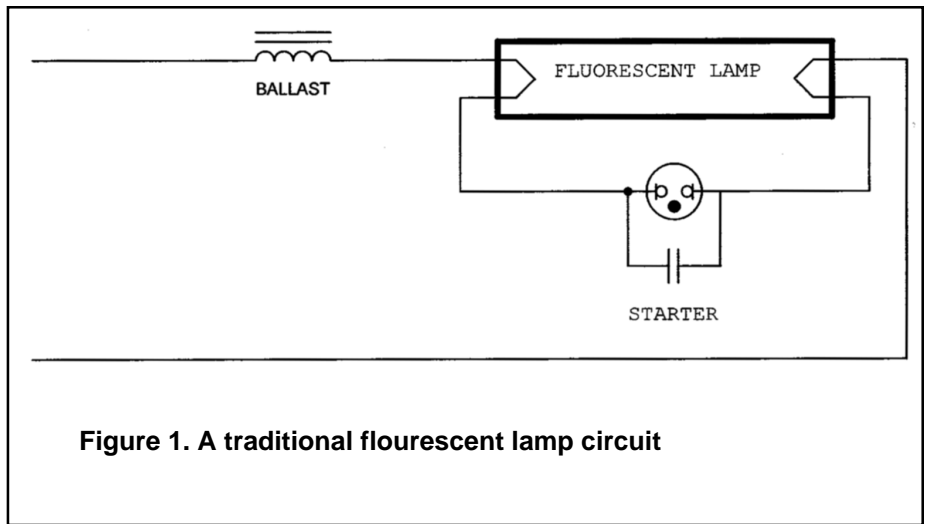
As the lamp blinks the heaters, that are designed to only be used to start the bulb once in a while, get excessive use. The ends of the tube start turning black as the heat from the heaters burns the phosphor and the heater material itself deposits on the inside of the tube.

This blinking also puts excessive heat on the ballast coil. As it gets hot, the insu-

lation on the wires inside the coil start to break down and the ballast starts to get lower in resistance. As it lowers in resistance, it allows more current to pass, causing excessive heat in the ballast, causing further breakdown, etc. The excessive current also puts more stress on the heaters in the lamp and the starter, causing them to fail. The blinking also generates a great deal of electrical noise that can interfere with other circuits in the game.

Troubleshooting

When the lamp first starts blinking, change the \$%\$#@* tube! If it is past the blinking stage and the lamp no longer comes on at all, change the starter also. Check the Machine Repair



log (you do use one, right?). If it hasn't been at least six months since the lamp was changed last, suspect that the ballast is going bad also. This can be confirmed by checking the resistance of the ballast. (Power off, please.) A change in value greater than 10% would mean the ballast should be changed. Learn

what the normal resistance of the ballast should be by measuring it when it is new.

If the lamp and starter have both been changed and the ballast checks okay, look for a wiring problem. This is especially true on lamps in doors. As the door gets opened and closed, the wires break

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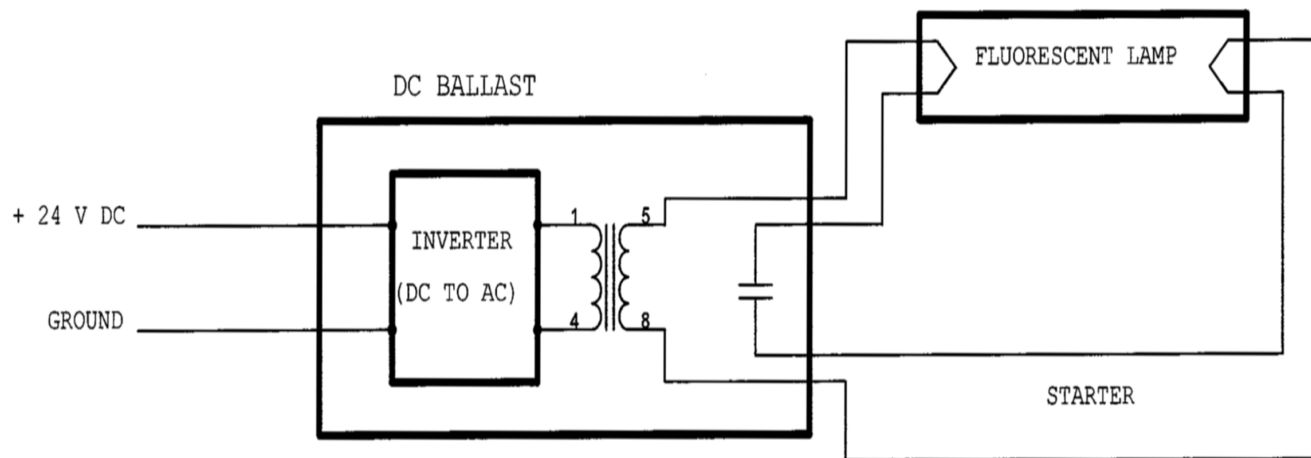


Figure 2. Solid-state ballast fluorescent lamp system.

apart. This is especially true on games that use solid wire for the fluorescent lamp circuits, instead of stranded. DC Ballast designs

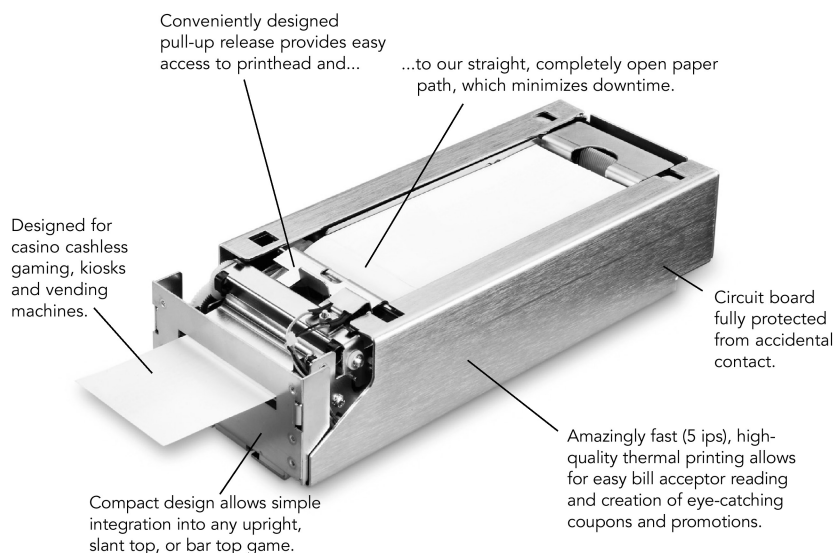
DC ballasts are becoming

more popular. They usually run off of 24 Volts DC. The 24 Volts is changed into about 70 Volts AC by a pair of transistors and a transformer in a circuit called an Inverter. This 70 Volts AC is applied to the

is connected between the heaters to provide an AC path through them to get the gas inside the tube ionized. This process is more efficient than the "AC ballast" designs. Considerable less energy is

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In early designs, the DC ballasts were not fused. If the Inverter should fail (which they often did), the excessive current melted wires and presented a fire hazard. A fuse assembly was made to attach between the wiring and the Ballast that contained a standard "one-time-only" fuse.

Newer designs of ballasts include a polymeric fuse built into the Ballast itself. These are devices that act as self-resetting circuit breakers. Normally they have very little resistance. As current passes through them they get hot. As they get hot their resistance increases sharply, essentially opening the circuit, acting as a fuse. When they

cool back down the circuit works again. This makes troubleshooting difficult. When the lamp fails to come on, the lamp is changed by the technician. 10 minutes later the lamp goes out again. Technician number two comes by and changes the lamp again. Eventually the technician finally reads the Machine repair log and realized the problem is the Ballast. He takes the ballast to the bench technician for repair. By this time the poly fuse has cooled down again. When the bench technician tests it, it works just fine. He put it back on the shelf for installation again in some other machine.

When bench testing DC ballasts, let them run for an

hour or so. Test them in a circuit similar to that of the game, actually under full load conditions. Let them reach normal operating temperature before calling them good or repaired. If the technician says it is bad, suspect that it is really bad first.

As with testing most assemblies that are suspected to be bad, use a current limited voltage source to test them with. When testing AC fluorescent lamps, plug it into an outlet fused with a low current fuse (1/4 Amp, or so). When testing DC ballast designs monitor DC current and confirm it stays within specifications.

- Herschel Peeler -
Hpeeler@slot-techs.com

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Optimizing Slot Aesthetics

While Keeping Costs to a Minimum

By Joseph S. Velas, President
JKL Components Corporation

New Integrated Lamp Assemblies Deliver Up To 400% Greater Life Than Wedge Base Lamp and Socket Assemblies, with Six Sigma Performance

New Design Integrates Lamp and Base, Reduces Lamp Darkening or Blackening, Boosts Useable Life & Uniform Brightness, YET Costs the Same as 'Old Way' Two-Piece Lamps!

It's a modern example of "For want of a nail ...".

Today's slot machines offer the player double or triple points, bonus time, jackpots and fast paced excitement. Yet, lackluster appearance or unscheduled downtime can easily diminish all of that positive action (and cash flow).

Slot machine use on the gaming floor is designer-optimized to present a factory-new appearance. After extensive research and analysis, these gaming specialists insure that their product will make a positive impression and enhance that special casino allure.

These experts utilize the latest in high technology to create the ultimate in machine appearance, utilizing the synergistic benefits of display

backlights, switch lighting, and appliqué appearance. They explore every means of illumination and photonics technology to create the most dramatic and appealing product ... without significantly increasing production or maintenance costs.

All of these technologically advanced concepts require machine lighting that is operational and exceedingly reliable. Failure of lamps outside of regular maintenance is costly in two ways: increasing expensive downtime, and negatively affecting overall machine appearance (lost cash flow).

And ALL of the new technology that has gone into creating a superior product can be nullified by an unscheduled lamp failure! So whether it's for want of "a nail" or "a lamp", it's important to note that high tech success is often controlled by less-than-high tech failure. And the culprit - be in the dashboard of your car radio or lighting the latest and most appealing slot ma-

chine creation - can often be A LAMP.

A newly-design specialty lamp is now available that increases lamp life by up to 400 per cent. Equally important, the lamp darkening or blackening effect inherent with traditional lamps is dramatically reduced. This provides clear, uniformly bright light for much longer periods of time, minimizing repair and maintenance downtime. And it does so at no premium in price when compared to wedge base lamp and socket assemblies.

The essential physical law of good lamp design is simple:

"The better the vacuum inside the lamp, the longer the lamp's life."

Having a reduced internal lamp atmosphere eliminates the residual gasses, which react the interior lamp filament. This reaction results in sputtering of the filament material on the inside of the lamp's glass envelope. This

diminishes light output and reduces filament thickness, making the lamp more susceptible to either (A) breakage from shock and vibration or (B) early burnout.

A DECEPTIVELY LOW TECH SOLUTION TO A HIGH TECH PROBLEM

A significant advance in lamp life and performance has recently been achieved. It's a new manufacturing process that reduces the residual lamp atmosphere to less than one-tenth that of wedge bases lamps and lamp assemblies. A proprietary dual contact design, which includes integration of lamp and socket, eliminates the need for hard wiring. In addition, its low profile design reduces both front and rear space requirements by up to 500 per cent that of wedge base designs. The new WWT Series is the first practical alternative to wedge base designs, setting new standards for uniform brightness, optimized life and ultra-tight tolerances. It offers slot machine designers and technicians measurable savings in labor/insertion and production costs, plus the reliability and replacement ease of a one-piece design. Most important, all these measurable benefits have been achieved for the same price or even less than sadly inferior wedge base lamps.

The Real Benefits to Slot Designers, Manufacturers and Technicians

- * Time before first failure is dramatically improved.
- * Performance variability tightens, assuring longer life and consistent light output within more stringent tolerances.
- * Overdriving lamps to increase brightness has nominal impact.
- * Dual contact to either the top or bottom of the PC board.
- * Greatly increased light distribution.
- * Increased filament strength and enhanced lamp reliability
- * Significantly lower labor and insertion costs

Understanding the Technology, Methodology, Test Results and Your Benefits

We will address five basic issues that set the new WWT Series apart from previous lighting options, illustrating the benefits of each.

WWT vs. Wedge Base Manufacturing Process Comparison

The first is a comparison of the manufacturing processes (see figures 1a and 1b). The most critical operation is step 2, which compares the large 4.0mm lamp base opening of the WWT to the 0.6mm constricted base opening in the wedge base design. resulting in removal of 10 times residual atmosphere in the WWT than in the Wedge Base. Details are included with the illustrations. Also note that all WWT lamps are 100% burned in and tested, while there is absolutely no burn-in with wedge base lamps.

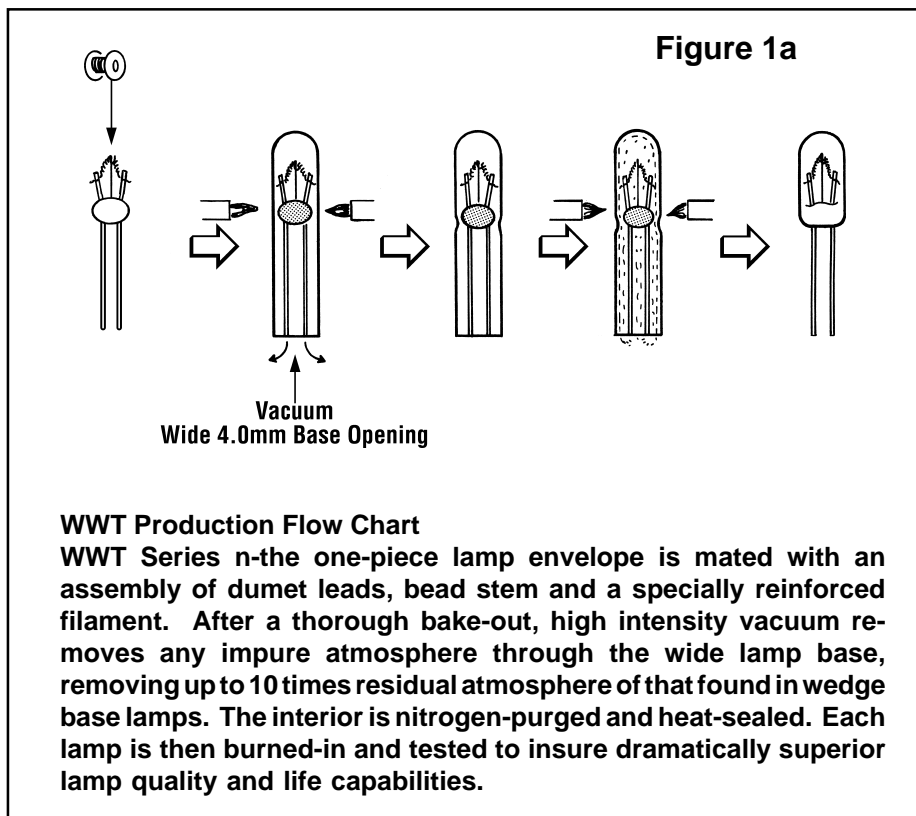
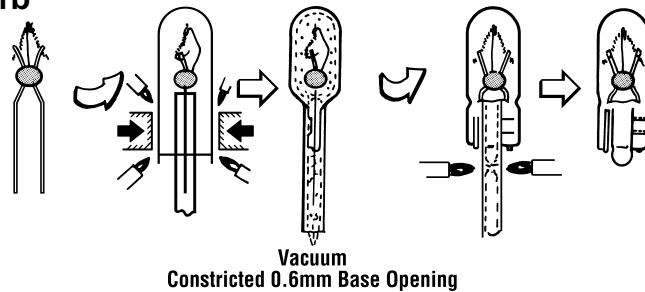
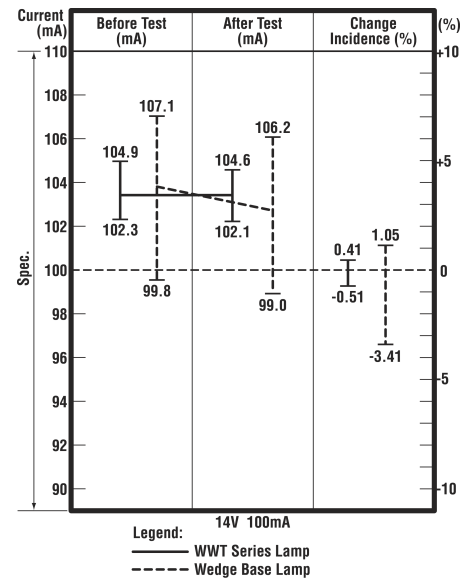


Figure 1b



Wedge Base Lamps (WBL) - Unlike the JKL integrated lamp design, wedge base lamps have a much-less-controlled assembly process, beginning with the joining of the dumet leads and bead stem to an inherently weak filament. The process has nominal bake-out. The base opening - only one-fifth the size of the WWT - is ineffective, leaving a harmful residual atmosphere within the lamp. These impurities shorten life and diminish predictability of performance. Finally, there is no burn-in or light testing.

Shock Test Performance Characteristics



COMPARISON OF LAMP FILAMENT STABILITY & SHOCK TEST PERFORMANCE CHARACTERISTICS

A key factor in extended lamp life and reliability is the length of the lamp filament attachment points. Figure 2 shows how the low profile WWT Series is only half the length of the wedge base lamp. Illustration Three shows the Performance Characteristic comparison, which verifies the exceptional stability of the WWT Series (solid lines) against the more erratic and unstable wedge base (dotted lines).

Lamp Filament Stability is Key to Extended life and Reliability

Low Profile WWT vs. Std. Wedge Base

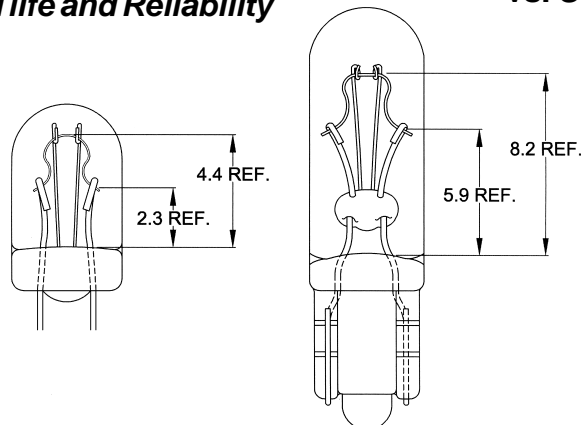
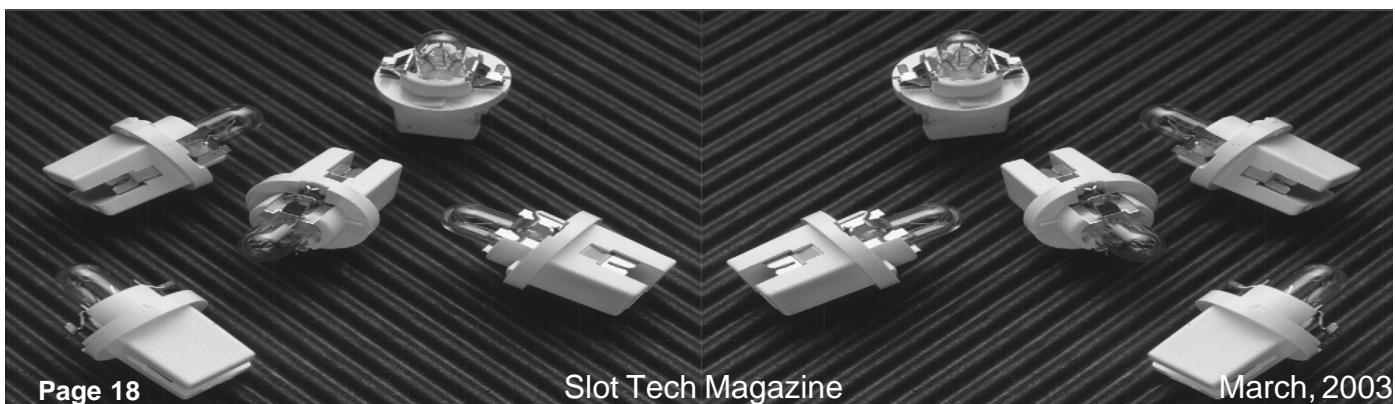


Figure 2

The above illustration shows that the distance of the WWT Series filament attachment points (measured from the seal area) is less than one-half that of the wedge base lamp. The longer that distance, the poorer its resistance to shock and vibration. This critical difference translates to >3x greater reliability, tighter Performance characteristics, and more uniform brightness over a dramatically extended lamp life.

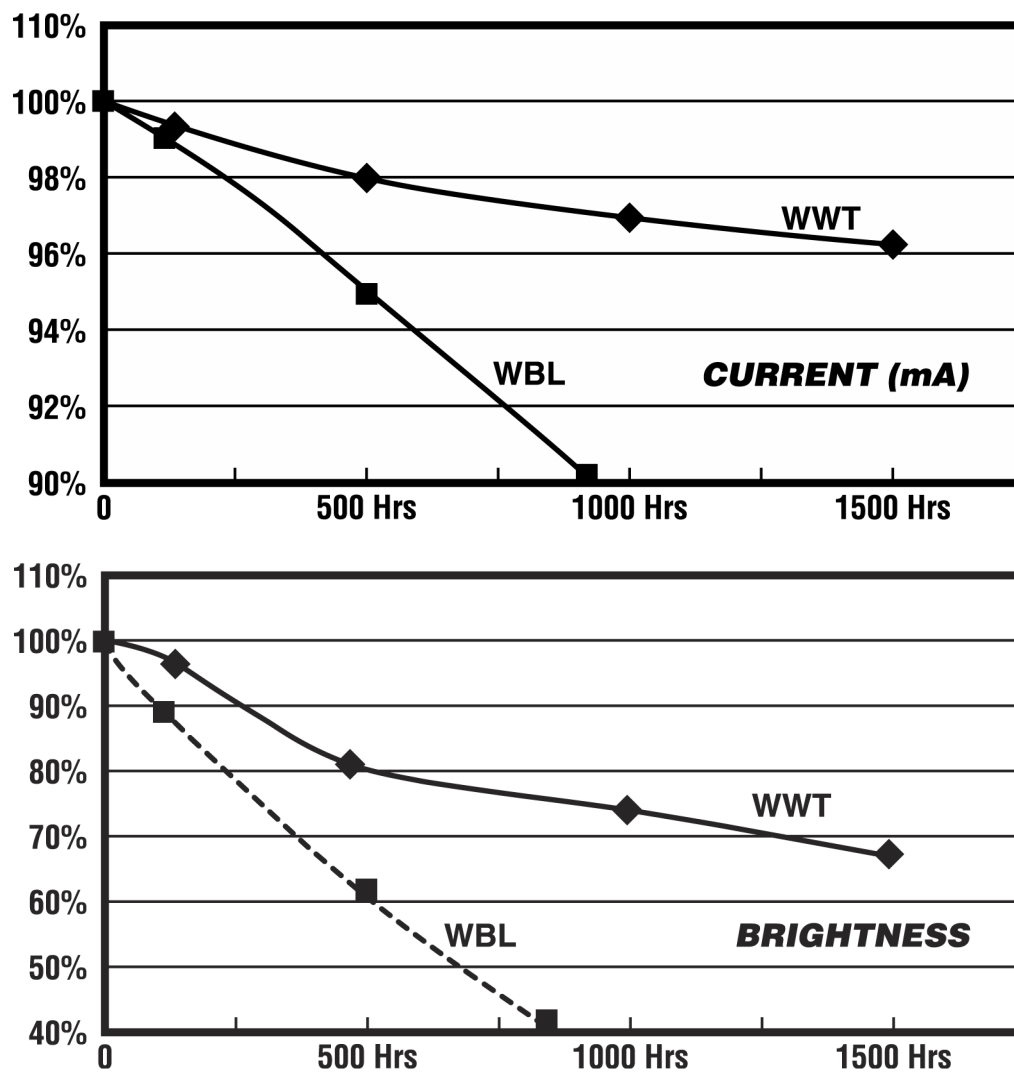


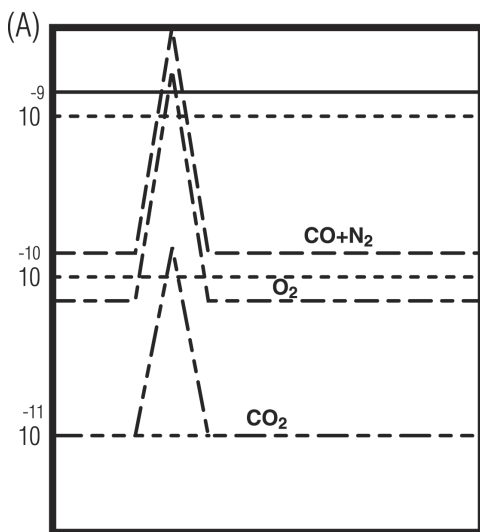
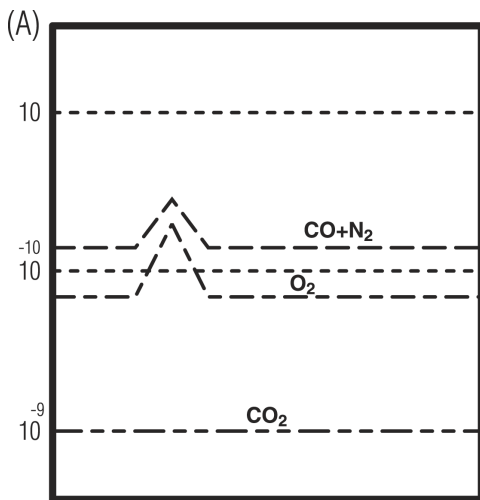
COMPARISON OF LUMINOUS FLUX (BRIGHTNESS) AND CURRENT MAINTENANCE OVER TIME

This illustrates the comparatively superior longevity of the WWT Series in maintenance of both brightness and current levels when compared to the wedge base lamp under laboratory test conditions. As you can see, brightness levels on the wedge base lamps 40% in only 800 hours, while the WWT Series was reading nearly 70% brightness after nearly twice the time, and the chart showed only a slight drop after the 1000 hour mark.

Similarly, the WW Series maintained 96% current levels after the full 1500-hour test period, while the wedge base lamp sample dropped precipitously to an unacceptable 90% in just over 900 hours.

Luminous Flux & Current Maintenance Over Time





COMPARISON OF RESIDUAL GAS CONTENT (MEASURED INSIDE THE LAMP) AND HIGH TEMPERATURE LIFE TESTING

Figure 5 (on your left) confirms the theorem, “The Greater the Vacuum, the Longer the Life”. Notice the dramatic difference in vacuum levels between the WWT Series and the standard wedge base lamp, performed under stringent laboratory test conditions. Residual atmosphere within the WWT Series is nominal, while that of the wedge base sampling is ten times greater.

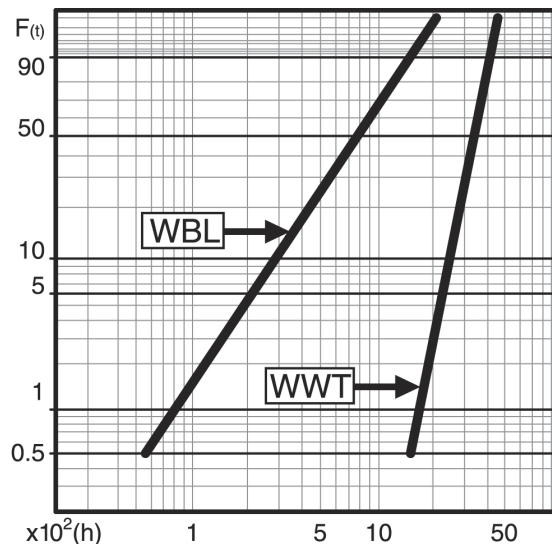


Figure 6 (above) demonstrates the clearly superior performance of the WWT Series over the standard wedge base lamp. First failure in the wedge base sample occurred at 81 hours, compared to 1,675 hours for the WWT Series, laboratory tested at high temperatures.

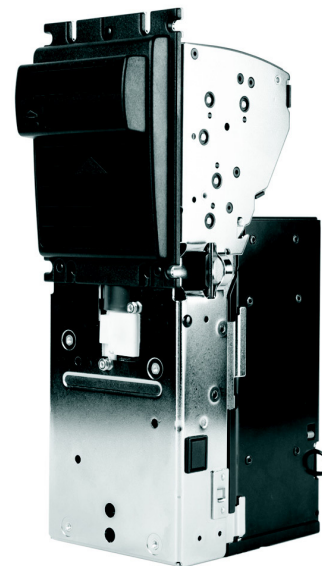
Slot Tech New Product Cashcode announces BackLoad SM

CashCode Company, Inc., the manufacturer of high-security cash-handling equipment, has unveiled the new BackLoad SM bill validator—the second in a line of feature-enhanced validators. An upgraded version of CashCode’s BackLoad model, the BackLoad SM showcases an anti-stringing design to prevent theft, and an optional metal bezel with a high-tech coin- and vandal-resistant configuration.

“Security was top of mind when engineering the new BackLoad SM,” said Val Levitan, CashCode’s Senior VP of Sales and Marketing. “All the features we have included in the SM not only offer the consumer added security, but also en-

hanced bill validation, greater convenience, value, and a variety of configuration options.”

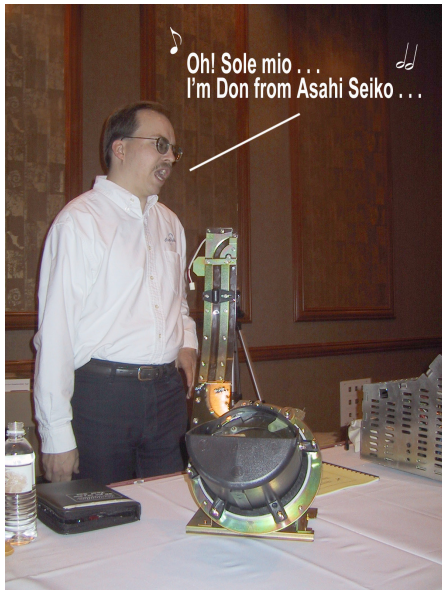
The BackLoad SM features patented inductive, dielectric, and multi-color optic sensors to optimize bill validation and counterfeit detection; convenient flash memory with Smart Stick for quick and easy currency updates; dual entry sensors to deter jams, and cross-channel sensors to prevent stringing. The BackLoad SM also retains many of the BackLoad’s popular features, including up, down or horizontal stacking configuration; tool-free easy service access, and a low-maintenance beltless design.



For further information, please contact:

Jenna Snyder Medvedev
CashCode Company, Inc.
905-303-8874, ext 2304
jennasnyder@cashcode.com

Slot Tech Magazine's Hometown Plays Host to TechFest 5 Event Held at Barona Valley Ranch Resort and Casino in San Diego



Don Seagle sang the praises of coin
hoppers during his presentation. He
showed us how to disassemble and
reassemble Asahi Seiko coin hop-
pers and how to adjust and main-
tain the unit.



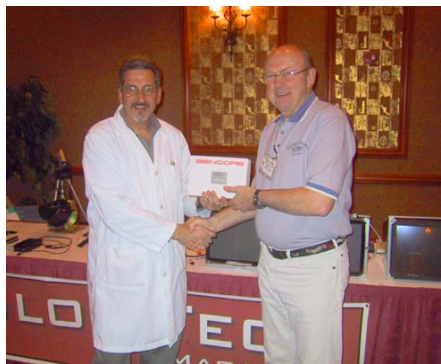
Mark Roberts is from 3M
Touchsystems. He gave us a run-
down on their popular touchscreen
and showed us some excellent di-
agnostic software for their product.



Bill Validator Mavin Tommy Talbot
presented two hours on JCM's WBA
unit. This dynamic presentation
crams a lot of knowledge into
TechFest's already comprehensive
program.



William Billingsley (Paradise Ca-
sino, Yuma, AZ) won this digital
Multimeter provided as a door prize
by Sencore.



Left: Brian Carty (l) and Rich Raley
from Advanced Electronic Systems,
Inc. gave us the rundown on MEI bill
validators (both the ZT series and
their new, CashFlow SC66 unit) and
the popular Seiko printers.



TechFest 5 - Barona Valley Ranch
February 4th - 6th, 2003

TechFest 5 was held in San
Diego, California - The heart
of Indian Gaming country in
Southern California and
home to Slot Tech Magazine.
TechFest 5 included a special
instructional series on video
slot monitor repair and power
supply repair presented by
Randy Fromm.

For more coverage and a
high-resolution photograph
for downloading, visit the
website at slot-tchs.com



WMS Gaming Display 3RV Products At ICE In London

WMS Gaming Inc., a subsidiary of WMS Industries Inc. (NYSE: WMS), continues its tradition of developing great games and offering new and unique product lines. Both were on display at this year's ICE show in London. WMS showcased exciting new base games available for sale, including: X Marks the Spot - swashbuckling excitement and suspense come alive in this pirate-themed adventure. Available in 5, 9 and 20 lines. Toast of the Town - a night on the town in the big city is the theme for this five-reel, 9-line video game. The champagne will flow and top hats will dance as the French waiter guides players through this game. For further information contact Dona Cassese, Director of Marketing, WMS Gaming Inc. Phone + 1 (702) 257-7020.

Email
dcassese@wmsgaming.com



International View

By Martin Dempsey



ICE 2003 - "A Great Show For IGT"

At ICE 2003, IGT was proud to display a total of 85 machines, up from 67 machines last year. This was primarily driven by the increased number of games! Alongside the biggest video slot library ever, they featured a new line of S2000 reel slots with a 4th reel feature and multi-line, multi-coin games, great new themed games and their new video bar-top machine that they think will be very good for their markets. Another first was the launch of EZ Pay for the European market, which received very enthusi-

astic feedback. But the best part was not that they were able to bring all this to ICE, it was that the majority of their customers were there to see it. Was ICE 2003 a good show for IGT? NO, it was a great show for IGT!" - Kurt Quartier, Managing Director IGT - Europe. For further information email
Karen.Thompson@IGT.com

Kimble Show At ATEI & ICE

ATEI and ICE 2003 were a huge success for Kimble. Their decision to take a stand in both halls was greatly rewarded, with huge interest on both stands over the three



days. They are confident enough to say that 2003 could be one of their best years to date. Kimble had a full range of reconditioned slots and pokers including IGT i-Games, S+, Game Kings and PE+ as well as Bally Game Makers, Pro Slots and Gamblers choice. They also showed Aristocrat Mark 4 and Mark 5, Atronic video slots and Williams reel slots. Of course their own Monte Carlo poker was there accompanied by their one player touch screen Roulette and their magic bomb, which is very popular in Russia and other Eastern European countries. For further information email kimble@iol.ie

STELLA International With Novelties At IMA 2003

At the IMA 2003 STELLA International, member of the German Gauselmann Group, presented its latest developments for the German fun game market as well as international AWP games. A highlight on the STELLA stand was the German fun game Fun Master, now available in the attractive upright cabinet as well as in the table version. Fun Master is a perfect combination of classic features with successful elements of the international casino world. For more information about Stella International, please visit the website at <http://www.stella-international.de> or contact Susanne Wesemann, STELLA INTERNATIONAL. Phone: +49-5741-273 515. Email: swesemann@stella-international.de

Amatic Products At ATEI & ICE

At the ICE show Amatic launched a follow-up product to its Roulette Grand Jeu. With the new modern design it differs from the Roulette Grand Jeu for 8 players. Now up to 10 players can experience the exciting live roulette game. Every player has his

own station where he can manage all the credit and bet affairs on the TFT touchscreen monitor. At the top head of this fantastic roulette machine the player can watch all the numbers which are on the roulette table. The lighted number on the top head wins. The ICE show is one of the best possibilities to get in

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touch with customers and potential customers. You can get to know competitors, conduct a conversation and compare notes. For further information email s.kaiser@amatic.com

Not Once, Not Twice But Three Times A Classic!

Following outstanding feedback at ATEI, Barcrest Games is delighted to confirm that its new 3 player game - Trio Grande - is set for launch. At ATEI, the show stopping new Trio Grande wowed visitors and generated lots of interest from the bingo club sector, with customers looking to maximise the £500 bingo opportunity. Trio Grande is a three-player version of Barcrest Games phenomenally successful Rio Grande. The bank of three Rio machines are connected by a large colourful top box on which a special animated 'Rio Grande' feature is played. For further information please contact: Clare McMillan / Sam Drakeford @ MediaWorks.

Tel: + 44 (0)113 234 5600.
Fax: + 44 (0)113 234 5601.
Email: clare.mcmillan@mediaworksco.com

Successful New Product Launch At ICE For Mauquoy Token Company

Mauquoy Token Company, the innovating token manufacturer from Belgium, improved on the success of the Collector Coin Dispenser to the tourist souvenir industry by showing an adapted ver-



Geert Geuens, Mauquoy Token Company and Bob Russell, Mauquoy International Sales with their Casino Collectors Souvenir Coin Dispenser.

sion of the machine to the Casino Industry on the ICE show in London recently. With the "Casino Collectors Coin", casino-operators may offer their clientele an opportunity to take home a nice reminder of their visit to the casino. A compact coin-dispenser with a sleek design is filled with the casino's own promotional souvenir tokens. For additional information, e-mail token@tokencompany.com to token@tokencompany.com. We will be pleased to forward all literature and further details. Contact Geert Geuens, Mauquoy Token Company. Phone: +32-14-50.79.30. Fax: +32-14-50.09.90. Email: geert@tokencompany.com Website: <http://www.tokencompany.com>

Global Gaming Expo Announces Audited Attendee Numbers

Global Gaming Expo (G2E), the trade show and conference organised by the American Gaming Association and Reed Exhibitions, recently announces its final verified figures for the 2002 event. According to official numbers, a total of 13,652 people attended G2E 2002, with 11,071 people visiting 620 exhibitors and 2,581 attending conference sessions. Expomark, the exhibition-auditing unit of the Audit Bureau of Circulations (ABC), audited G2E 2002 numbers, verifying the show's attendance. G2E was held September 17-19, 2002, at the Las Vegas Convention Center in Las Vegas, Nevada. For more information on attending or exhibiting the 2003 event, visit the G2E website at www.globalgamingexpo.com email smanheim@globalgamingexpo.com Contact Kimberlie Leon at + 1-203-840-5653

Novomatic's Austrian Gaming Industries GmbH Says "Thank You"

Novomatic's wholly-owned subsidiary, Austrian Gaming Industries says "Thank you" to all the ICE 2003 visitors for the overwhelming acceptance shown to them at their stand in London. Existing and new customers alike praised AGI's latest product line. All video slot games were shown in AGI's brand-new Multi-Screen Technology double monitor cabinets. The new Multi-Screen Technology concept takes advantage of the latest technological advances to controlling two monitors simultaneously. For further information contact Monika Emeresz, Marketing Manager. Phone: +43 2252 606-415.
E-mail: memeresz@novomatic.com

TCS Tour Update

The Tour has begun, after a successful ICE - with the TCS On Tour Team setting up for the first stage of the roadshow in Madrid, at the Casino Gran Madrid. Day One saw beautiful sunshine, but very high winds, giving the tour team a challenge for setting up their mobile showroom. However the first customers of the tour enjoyed their visit, hosted by the TCS Spain team, Patricia Goethals and David Charnock. Visitors to the TCS Mobile Showroom on Day One, were Jaime Vaca de Arrazola Banos from Casino Bahia de Cadiz and colleague Teresa Juste Picon.

Staff and management from the host casino were also shown around the mobile showroom. Next stop Lisbon! For further information email ate.McLennan@TCSGroup.com

AmEx 2003 - Ireland's Industry Event Of The Year!

AmEx 2003 - The 24th Irish Amusement Trade Exhibition & Seminars, will be held on Tuesday 4 & Wednesday 5 March 2003 at Jury's Green Isle Hotel, Naas Road, Dublin 22. Opening hours will be from noon to 7 pm Tuesday and 6 pm Wednesday.

There is expected to be considerable interest in gaming and many new gaming products will be shown, to conform with current regulations and in anticipation of demand after the introduction of changes to the Irish Gaming & Lotteries Act.

Also, the legislation governing the operation of machines in Northern Ireland is currently being examined and it is likely that changes, bringing it into line with mainland GB legislation, will eventually be introduced, creating a demand for additional gaming products.

In addition to the exhibition there will be a full programme of seminars, meetings, business presentations and social gatherings, continuing the show's reputation for bringing together Irish and international manufacturers, distributors and operators in a businesslike atmosphere.

Exhibitors at AmEx 2003 will include All Change (Leeds), Almotech, AtariExpo, Automatic Amusements, Brent Electronic, Brent Sales, Britannia Leisure Services, Cash Automation, Coin Slot International, Coin-Op News Europe, Crane NRI UK, Cromptons Leisure International, Crown Direct, Deith Leisure, Electrocoin Sales, EuroSlot, Franco Gaming, Game Time International, Genesis Enterprises, Happ Controls Europe, I.A.E.A., Intergame, ITM Leisure, JCD, J.H.S. Associates, Kimble, Konami Amusement Of Europe, Leon Deith Sales, Maggi & Maggi UK, Master Billiard Supplies, N.I.A.C.T.A., NSM Music, Oasis Retail Services, Olympic Sales Bundoran, Premier Cranes, Q Leisure Sales, Radical Shock, Riley Leisure, Rowe International, SB Machines, Scan Coin, Scott Tod Developments, Sound Leisure, Suzo International (UK), TCS Funtime, The Club, The Novelty Capsule Company, Thomas Automatics, Vending Times and Your Guide.

AmEx is organised by MD Associates, supported by IAEA - The Irish Amusement Equipment Association.

For further information contact Martin Dempsey or Susan Feery.

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Phone + 353 (0)45 521190
Fax + 353 (0)45 521198
Mobile + 353 (0)87 2209732

An e-motional Experience Most Successful ICE Show Ever For ATRONIC



At this year's ICE show Atronic International experienced an overwhelming attendance of customers from all over the world, resulting in a record number of confirmed orders. Atronic presented a comprehensive range of revolutionary new products together with a wide choice of new Cashline titles and an array of surprises. The highlight of the show was for sure the sales kick off for Atronic's highly anticipated e-motion cabinet and Hi(!)bilty platform.

e-motion and Hi(!)bilty are an inspiring mix of the technology of the future combined with a self-merchandising, environment-creating package designed to enchant both existing and next generation players. Hi(!)bilty's techno-

logical innovations, combined with e-motion's ergonomic, height adjustable playfield and breathtaking design, are sure to create a richer environment on every casino floor. The first two games released on the new platform and in the new cabinet are Atlantica

and Babooshka, themes that have proven to perform extremely successfully as Cashline games. Atronic also gave a preview on some future games for e-motion and Hi(!)bilty, some of which will be exclusively available for this cabinet and platform. Customer feedback on e-motion and Hi(!)bilty was sensational and the huge amount of orders and sales leads indicates that this new product will be seen in huge numbers in the market very shortly. Atronic furthermore presented the largest ever selection of Cashline games including Atlantica, Clowning Around, Dream Maker, Ghost Hunter, Jumping Jackpots, as well as the brand-new Running Numbers, the "Mystery" game and the Fairy Ring series of games. Proven suc-



cessful, themes including Babooshka, Sphinx II, and I.C. Cash were also shown in a variety of configurations and cabinets including the Cashline Upright and Slant Top cabinet as well as in the Titan, Atronic's unique oversized video slot machine. The game themes were complimented by Atronic's flexible merchandising packages, further demonstrating Atronic's commitment to providing the widest variety of options to its customers.

Another highlight of the show which created a lot of excitement amongst visitors were Atronic's stunning progressive tower box games Sphinx Magic and Cool Catch. Sphinx Magic is based on the globally successful theme of Sphinx and provides great excitement through its high hit frequency, unique multi-level progressive and the interactive Magic Bonus Card feature. It's breathtaking Las Vegas style tower box package with 3 meters and Atronic's unique flip card bonus, Sphinx Magic is sure to attract a high level of play. Also on display was Cool Catch, which is based on the well-known theme of IC Cash, combined with an exciting



Sylvia Dietz, Atronic with I.C. Cash.

Slot Tech Magazine

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Recognized as one of the
"Top 20 Most Innovative Gaming Products of 2002"

Bonus Card feature perfectly suited to mix in a bank with Sphinx Magic. The flexible concept of Atronic's tower box product allows easy game conversion which is usually not possible with this type of product.

Visitors also witnessed the premiere of Atronic's latest addition to their product portfolio: a multi-player game station featuring Tropical Stud Poker and Magic Bingo. This eye-catching product includes an attractive overall package with 5 playing stations and a tower with an attractive 42" Plasma monitor. For Magic Bingo additional configurations are possible, with the opportunity to connect up to 255 (!) playing stations. Furthermore ATRONIC displayed at the show an upright Joker Poker game and a brand-new upright Black Jack game which features amazing graphics and effects.

In addition to this explosion of new and revolutionary products customers also could participate in a prize winning lottery and enjoy Atronic's traditional and cheerful Happy Hour. The successful mix of attractive booth design, inspiring products and Atronic's "Great People" resulted in a record number of confirmed sales orders. Visitors were extremely pleased with the wide range of products shown by ATRONIC as well with the attention and

advice they received from the Atronic team.

Atronic, the world's third largest slot maker, is headquartered in Germany, and has offices in Australia, Austria,

Great Britain, Peru, South Africa, and the United States of America. To find out more information about Atronic, please visit the Web site @ www.atronic.com or call 1-800-864-7670.



ATRONIC

PATRICK HAYES ARCHITECTURE



SCOTTSDALE- Construction has begun on the North-American corporate headquarters for Atronic Americas, maker of high quality video slot machines used worldwide and in Arizona Casinos. The innovative 90,715-square-foot two-story building will be located in Scottsdale, Arizona at 92nd Street and Bahia Drive. The project includes warehouse, production and office space for local game design and development. First Industrial Realty Trust, Inc. is developing the project, Layton Construction is the general contractor and Patrick Hayes Architecture provided the design.

ICE 2003 Not A Good Show - A Great Show!



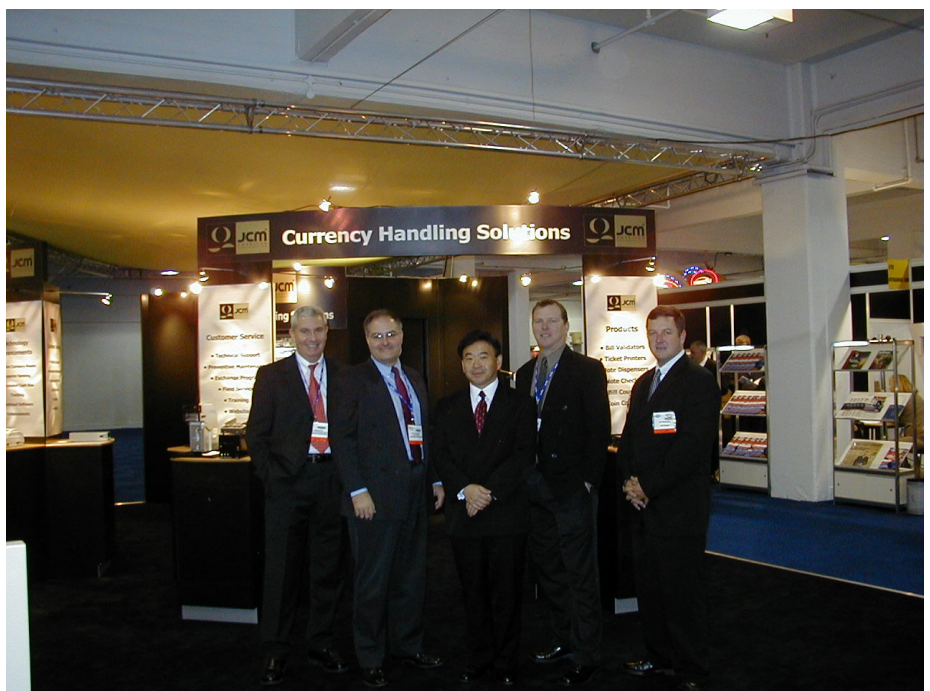
The total number of ICE-registered visitors at ICE 2003 was 6,388 - 26.0 per cent higher than the previous year's figure of 5,069 - setting a new record high for the London casino show. In addition a further 8,582 ATEI-registered buyers crossed over into ICE, giving the International Casino Exhibition a total attendance of 14,970.

ICE 2003 was the most international in the show's 13-year history, with visitors travelling from 98 territories, six of which - Aruba, Dominican Republic, Indonesia, Kyrgyzstan, Myanmar and Qatar - were represented at ICE for the very first time. The number of international visitors, who accounted for 62 per cent of total attendance, rose by 37.3 per cent to 3,961. Constituting more than half of the total attendance, visitors from continental Europe

numbered 3,232 - up 46.6 per cent on the previous year.

There were no fewer than 729 intercontinental casino buy-

ers. UK visitors rose 24.1 per cent to 2,309, representing just over one third of the total attendance. 40 of the top 50 international visitor territo-



JCM American's booth at the ICE show in London. JCM displayed their full range of products including bill validators, thermal printers, intelligent cash box and coin/currency handling equipment. JCM Germany also had a booth at the adjoining ATEI (Amusement Trades Exposition International) show. From left to right: Keko Mottes, Tom Nugent, Aki Isoi, Mark Henderson and Peter Eagle (who represents JCM in South Africa.)

ries either increased or maintained their representation at ICE 2003.

Net floor space was 7,500 sqm; there were 147 exhibiting companies, 101 of whom were from outside the UK. 28 nations were represented by exhibitors, including 54 new exhibiting companies. The best stand award went to WMS Gaming; the merit award to Mikohn Europe and the best press pack to Aristocrat Technologies Europe.

Quotes

Kurt Quartier of IGT Europe: "Was ICE 2003 a good show for IGT? NO, it was a great show for IGT! At ICE 2003, IGT was proud to display a total of 85 machines, up from 67 machines last year. Alongside the biggest video slot library ever, we featured a new line of S2000 reel slots with a 4th reel feature and multi-line, multi-coin games, great new themed games and our new video bar-top machine that we think will be very good for our markets. Another first was the launch of EZ Pay for the European market, which received very enthusiastic feedback. But the best part was not that we were able to bring all this to ICE, it was that the majority of our customers were there to see it."

Jens Halle of Novomatic's Austrian Gaming Industries: "Novomatic's Austrian Gaming Industries says Thank You to all the ICE 2003 visitors for the overwhelming acceptance



Karen Thompson, IGT Europe with Harley Davidson from their I-Game Plus Series.

of our new product line shown to them at our stand in London. Existing and new customers alike praised AGI's latest product line. All video slot games were shown in AGI's brand-new Multi-Screen Technology double monitor cabinets. Incorporating a second video monitor into the top of the cabinet

introduces new possibilities for the presentation of exciting 3D animations. Presented in a sophisticated new space saving cabinet called "Diplomat-Streamline" - now additionally available in elegant trend-setting silver, it was one of the highlights of the ICE show."



The 2003 ICE ball took place on Thursday 23rd January at London's prestigious Dorchester hotel.

ICE To Move In 2004

The 2003 International Casino Exhibition was the last to be held on level 2 of Earls Court 1. The burgeoning show, which in a decade has grown from just 37 to 150 exhibitors, will make the short move to Earls Court 2 for the 2004 show. Peter Rusbridge, chief executive of organising company ATE, explained: "In ICE we have one of the fastest growing exhibitions in the show calendar. The simple fact is that the current home on the upper level of Earls Court 1 is not capable of accommodating any future expansion, hence the decision to take advantage of the opportunities offered by Earls Court 2."

ICE sales manager, Karen Cooke believes that the benefits of relocating go beyond the need to accommodate continued expansion of the show. She said: "By being on the ground floor, build-up will be far easier, giving an improved service to our customers. Also the same height restrictions will not apply, providing stand designers with a freer hand."

Cooke added: "Few would have predicted the development of the show from its modest origins in the Pillar Hall at Olympia to its current status. The move to Earls Court 2 represents a significant 'coming of age' for a show which many feel is the best gaming and gambling event in the world."



Robert Old and Georg Steiner, Bally Gaming Systems with their Playboy gaming machine.

2003 ICE Ball

The 2003 ICE ball took place on Thursday 23rd January at London's prestigious Dorchester hotel.

The event, which brought the

curtain down on the International Casino Exhibition, has become a must-do fixture in the social calendar of the casino industry. Special Events Manager, Samantha Byrne, said: "The ICE ball is a fabulous way of celebrating the



Sonya Nikolova and Ivan Tzarkarsky, Casino Technology with Space Diamonds.

end of another fantastic exhibition for the international casino industry."

Some ICE Exhibitors

WMS Gaming showed Roll Credits, Big Tippers, Hot Toppings and three new titles X Marks The Spot, Toast Of The Town and Alfred Hitchcock. They also showed 3RV which is a video slot with three reels and comes in a video box. IGT presented a range of games including Harley Davidson Motor Cycles which is available in video and reel versions and is offered on a lease basis. They also showed Fortune Cookie, Wheel of Fortune, Elvira Mistress of the Dark, Game King multigame, Cleopatra, Enchanted Unicorn, Lucky Lobster, Tabasco (one of their licensed products), Red White & Blue which includes a new fireworks feature and the S2000 platform solid reel machine with added 4th bonus reel. Amatic exhibited Roulette Grand Jeu, Multi Game, Ring of Fire, Multi Casino, Jolly Roger and Bingo Party.

Kimble showed a range of games from Unidesa Gaming, Sigma, Atronic, Bally Gaming, Aristocrat and IGT including Players Edge Draw Poker, Gamblers Choice, Double Double Jackpot, Jackpot Stampede Plus, Money Pit and Sphinx. Franco Gaming presented Money Pit, their Phoenix machines which took two years to develop; American Dream, Star Spangled Sevens and Red Arrows. Mikohn



Lyubov Chekadanova, Pavel Indrishenok and Oleg Indrishenok, Kare Technology with some of their video gaming machines.

exhibited the EZ Pay system which is ticket in ticket out. When you have completed the game you get a ticket with your winnings printed on it along with a bar code. The ticket can be reinserted to play again or can be cashed. It is valid for up to thirty days

Novomatic showed double monitor machines which come with a second screen feature in a new streamline cabinet and are particularly suitable for small locations. They also showed bartops Columbus, Sharky and Hot Target.



Phil Thomas, Novo Gaming UK with Beetle Mania video fruit machines.

nology, in bingo and casino versions. They also showed the casino version of Casablanca, Magic Diamond, Steam Train and ICE Bear with bingo version soon to be launched.

Atronic exhibited their latest cabinet E-Motion which comes with two TFT screens, the lower one for the game and the upper screen for the payable. The cabinet is height adjustable. The payable can be changed from a remote location and software is available on DVD.

John Huxley showed Hypno Hippo five line video reel machine from Play & Win, Czech Republic; American Hot Slot and The Phoenix five reel ten line game. They also showed Rapid Roulette with virtual dealer and a system that allows you to put in bills / notes and bet discretely.

Bally Gaming & Systems presented Playboy machines with the help of Play Girls; Monte Carlo and Tower of Power.

Set Production from Russia manufacture Roulette and Table games, Roulette Wheels and displays for Roulette games.

R. Franco from Spain exhibited Jailbreak and Alice in Wonderland. They also showed Hot 7's which they manufactured for the Irish market. Kare from Russia showed video pokers and gaming machines. They also own



Jens Halle, Monika Emerez and Udo Nickel, Novomatic presenting their bartop machines

gaming clubs in Russia.

Dyna presented their Swedish lottery machine Vinstdraget along with Cherry Master Gold and Golden Roulette.

Casino Technology exhibited Aztec Gold and Space Diamond which are manufactured by themselves. They also manufacture casino equipment, automatic roulette machines, jackpot systems and electronic betting terminals with LCD displays. Their multiplayer system can link up to 164 machines in one location. Eurobaz showed the Harmony Karaoke Mike which stores up to 250 songs on a chip which is inserted into the microphone. This eliminates the need for DVDs, CDs, records etc. They also showed surveillance equipment from Telex Pro which works on real time.

Gold Club manufacture their own casino equipment and showed American Roulette.

Alfastreet presented Derby Champion 2 which is distributed in Ireland by Eastwood Automatics. This machine is manufactured by Alfastreet solely for Ireland. It is a multigame casino style cabinet with note validator, coins in credit out and pre-recorded video from Hollywood Park. It comes in three formats - 5, 6 and 8 player.

- Martin Dempsey





A Utility Tech, What's That?

By Scott Reynolds

Hi gang. I wanted to let everyone know what's been going on since my last article many months ago. Long story short, I finally made Utility Tech here at Boulder Station and it sure beats shuffling papers all day long.

In the world of Station Casinos, you have Utility Techs and Floor Techs. Floor Techs are the highest on the food chain and they handle all the standard fare associated with being a Slot Technician: Escalator/Hopper jams, bill searches, stuck buttons, blown bulbs, runaway hoppers, reel tilts, etc.

A Utility Tech, on the other hand, is responsible for physical moves, conversions, sign installation, setting up of tournaments and any other "grunt" work that needs to be done with respect to the slot floor.

I originally wanted to run down a typical conversion complete with pictures but unfortunately, we have so much to get done in a single day and consequently move so fast that getting pictures of the process is not really feasible (not to mention the fact that my digital camera is not exactly small).

Instead, I would like to take you through a typical week so you can get an idea of what we do. We work from 4am to 2pm Mon-

day through Thursday with Friday, Saturday & Sunday off;

Monday, we started off by dropping hoppers on two banks. The first was a bank of eight IGT Game King 19" uprights and the second, a bank of six IGT 13" uprights. For those that don't know what dropping hoppers is, it means to dump the contents of the hopper into a drop bucket and give it to the hard drop team as they make their rounds. After the drop, we made the eight 19" Game Kings coinless and of course added ticket printers.

The machines themselves are round tops and four of them already had the required screw studs to hold the printers, the other four needed to have their round tops replaced. To replace the round tops, the bracket that holds the player tracking as well as the large circuit board, candle and the fluorescent ballast must be removed and all wiring dropped into the game itself. You then remove the four screws that hold the round top on. Swap the old round top with the new and reverse the process.

We use Seiko printers which for the most part don't have too

many problems. The printer and carrier (not sure if that's what it's called) along with all mounting nuts, ribbon cable and power cables, face plate bracket and faceplate all come packaged together. Remove the printer from the carrier and bolt the latter into the round top. Insert printer, attach ribbon cable to the carrier and run power cable through the game and plug into the back of the I/O board. Attach faceplate bracket and faceplate. To make the game coinless, remove the coin head and replace with a blanking plate; Key chip the games, enable printer, disable hopper and make any other changes necessary.

As for the 13" Game Kings, we are currently adding a large "pizza box" to the top of the games that will contain the player tracking and ticket printers (these will replace the existing half height boxes that contained player tracking only). I am not sure if these are custom jobs for Station Casi-



nos or if they are off the shelf. It seems to me all they would need to know is what kind of player tracking and printers you have. Installing these is pretty much the same as installing the round tops described above with the exception that screw holes must be drilled to attach the box. After that, new machine and bank numbers are applied and hoppers are filled.

We have two compounds located in the parking garage, one on the second floor (casino level) and one on the third floor where tournament games and other rarely used equipment is stored. The second compound on the third floor is brand new and after lunch we spent the rest of the day moving machines from the second floor to the third.

Tuesday we spent the bulk of the morning removing a bank of Mikohn Battleship games from the floor and putting a Williams bank in its place (again doing drops first). The Mikohn games, if you have never dealt with them, are a headache and a half. They are actually Sigma games. Mikohn was out many times to fix problems that would crop up (sometimes from just powering the game on and off). Since these games belonged to Mikohn, we needed to strip them of all locks and player tracking.

Once they were out of the way, Williams uprights were installed. They were very dusty as they had been in the compound for a couple of months and needed a thorough cleaning. Power was run, along with the wiring for player tracking. The games were shimmed to make sure the bases were of uniform height and then bolted together.

It was decided that two of the games would be converted to a new theme. All game percentages were set, the machines and banks were numbered and all hoppers filled.

IGT had sent out a CN (Customer Notification) that certain Comm boards needed to be replaced and we spent the rest of the day determining which machines were affected and replacing said boards.

Wednesday was an odd day in that there was not much on the schedule except five conversions and two additions, so besides those, there was a lot of "busy work." We did the conversions and two of the guys went out to the compound and spent a few hours moving the rest of the tournament games from the second to the third floors and generally straightening up.

I helped out my supervisor get the two additions ready to be put on the floor. One of them had a particularly thorny problem. Both machines were IGT iGame Plus video reel machines that had been in storage for a month or so. We converted them both and had to put an additional I/O board and button panel in for the games under discussion. When plugging in the second I/O board on one of the games, it would refuse to boot up. As soon as the I/O was removed from the loop, it worked normally. I/O boards were swapped between machines as well as processor boards, power supplies and finally motherboards. Nothing seemed to work.

This particular machine had had some wires spliced at one time by a floor tech and it was thought that this harness was part of the problem. After a great deal of troubleshooting (all of the items that this har-

ness supplies) it was determined that a short in the candle was the culprit and fixing that took care of everything.

The machines were mounted on bases and taken to the floor to supplement an existing bank. We bolted the new machine bases to the existing ones, ran power and player tracking and put them in service. No fill was required as these were coinless machines. After putting the games in service and testing the ticket printers, we discovered the bill validator on one machine was not working. After a quick replacement, they were off and running.

As we were about to leave on Wednesday afternoon, I was pulled aside by my boss and asked if I was ready to begin doing vacation reliefs for the floor. Once you have a handle on the Utility Tech job, you start doing vacation reliefs for the floor techs. There is no raise in pay but the experience you gain helps get you ready for your eventual move to floor tech. I told my boss that I was ready and he hit me with a bombshell, I was to take off the next day (Thursday) as well as my regular Friday and Saturday and report to work Sunday through Tuesday for the day shift and then Saturday through Monday the following week for the graveyard shift. Needless to say, I won't have a report for Thursday of this week but hopefully a new article for next month on how things went.

I hope I was able to give you a small idea of the things we do as Utility Techs at Boulder Station. This was a very odd week. Not nearly as much work as usual but I think you get the idea.

- **Scott Reynolds** -
sreynolds@slot-techs.com

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Randy Fromm's

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