

# SLOT TECH MAGAZINE

Slot Machine Technology for the International Casino & Gaming Industry

November 2013

Slot Tech Magazine

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# Slot Tech Magazine

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Hey, IGT . . .

File this under "Bridges-Burned." As most readers (friends) of Slot Tech Magazine know, I had finally managed to score a presentation from IGT for TechFest 27 (held in May 2013 at the Mystic Lake Casino Hotel). It was a WONDERFUL presentation. IGT's Bill Rigg did the honors and his seminar was one of the best presentations we've ever had at TechFest. IGT had asked that I reimburse them for Mr. Rigg's expenses (Transportation, lodgings, etc.) and I agreed to do so (generally speaking, my presenters pick up their own tab as they see TechFest as a worthwhile, industry event that enables them to reach many properties for training purposes at a single location). In the end, I couldn't have been happier with Mr. Rigg's seminar and what I had thought to be my new and >TOTALLY AWESOME< relationship with IGT.

Con't. Page 19



Randy Fromm

## Randy Fromm's Slot Tech Magazine

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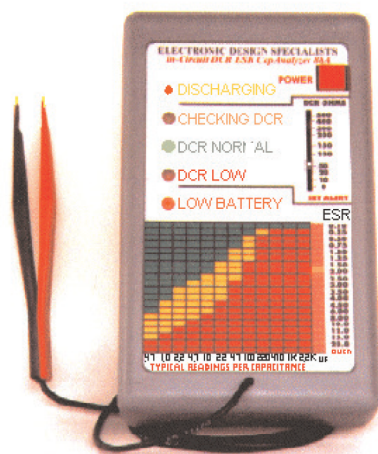
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## Bally ALPHA Reel 4 Tilt

By Chuck Lentine

**T**his machine (Bally upright model S9-1 Progressive) was left for me to figure out after a few other techs attempted to get it going. It was first showing "Mechanical Reel # 4 Error." This is odd because it is only a three reel game! Looking at the MEAL book, it showed no history of this tilt, just a power supply swap a few days prior. I compared game options with the machine next to it and all were a match. The first thing I checked was the Reel Control Unit (RCU) in the top box, then the wire harness on the reel shelf. Both of these items have given us trouble in the past and produce some funky errors. On the RCU, some versions have every IC in a socket and other versions they are soldered directly to the board. I reseated every IC on the board and checked the rear connector for bent pins. All looked OK so back in went the RCU.

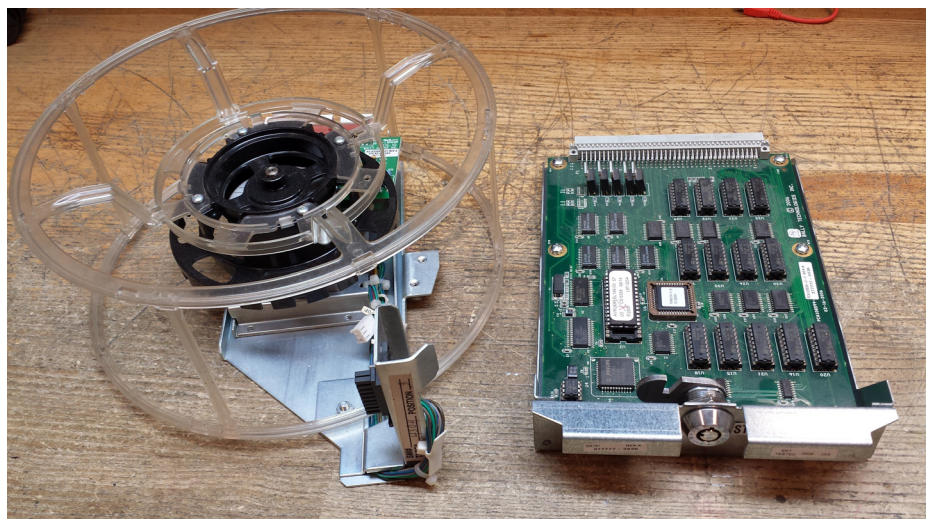
Taking a glance at the wiring harness on the reel shelf revealed no broken or

bent pins. We have had quite a few crimps go bad on pins that held two wires and the reels would never stop spinning slowly. The next thing to check is the reel calibration. On our games it can be found by pressing the test button. Go to DIAGNOSTICS-> GAME DIAGNOSTICS-> REELS. All three reels calibrated perfectly every time! A spare RCU and three new reels were then installed in the machine hoping to make a difference but wound up with zilch, as reel 4 is still showing a tilt. I then tested various voltages at different test points. All were good of course but I replaced all three power supplies (5V, 12/24V and the ATX in the CPU). No change. Problem still exists. Because this is a progressive with a Mikohn Cham

2+ in the top box, perhaps this was dragging it down? Disconnecting the progressive data line to the top box connector produced the "Progressive disconnected" tilt. Re-connected the line and it went away. That is not it. Saying a few choice words to the machine I headed back to the shop for a beverage and get the RAM clear chip.

I do not like to RAM clear a machine unless it is absolutely positively necessary. Bally games in our casino are usually quite stable and I have to do this once a year. I believe something now with the logic department is causing this.

I remember one of the new Bally ALPHA2 games with the 32" monitor came up with "Secondary



RCU and reel





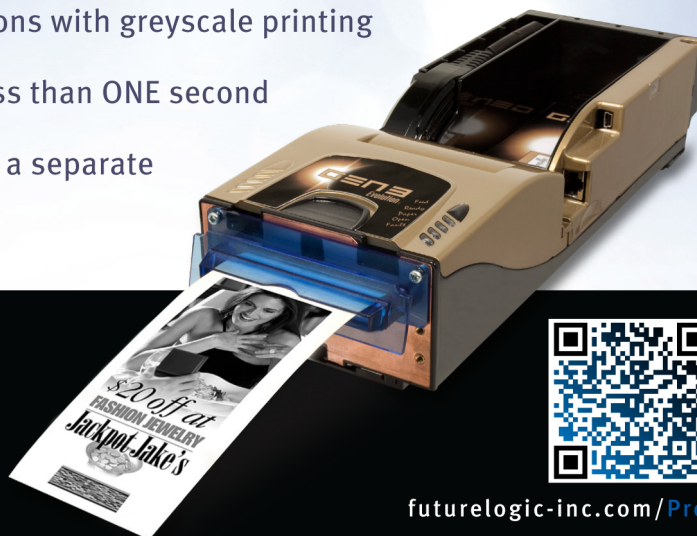
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touchscreen error” a few weeks ago. It turned out that the main touchscreen cable (DB9) had fallen out and was plugged into the wrong (unused) port. The game sensed this and was now locked on thinking it had to use two touchscreens. The only way to clear the tilt was to plug the thing into the correct port and RAM clear it. That fixed that problem.

Thinking along the same lines, I headed back to the machine to RAM clear it. The procedure went normally and, crossing my fingers, after it was done the Reel 4 tilt was gone! But what caused it? Running reel tests, beating on the machine and checking everything for the third time could not replicate the tilt. All must be well I thought until the coin test was done.

After signing out some test money, I headed back to the machine in question. Attempting to insert a bill I was greeted with the BV saying nope, I’m not going to take anything today. I quickly swapped the BV with the machine next to it and it worked in that game. The original machine was still playing dead on me. What do I have, a bad cashbox? I thought to myself. I checked all the gears and flags and found them to be responsive as they should be. I then put everything back together and started the analysis over again. The BV was disabled and also the “Help” button the monitor did not work. It

should have brought up the paytables and rules of the game on the screen. It was there but grayed out on the screen. A quick calibration proved the touchscreen worked it worked properly. It also worked perfectly when I brought up the test mode. How irritating is this?

Thinking my CPU is flaking out, I went back to the shop to get a known good working spare CPU. I knew I would have to RAM clear it again after I installed it, however no money or play has been reported through accounting so I could clear it again. We had spare BIOS and Jurisdiction EPROMs and I installed them in the spare CPU before I brought it out. The only thing I had to swap was the original OS and game cards as well as the PCI board to the spare CPU. With the spare CPU installed, I RAM cleared it again and set all options.

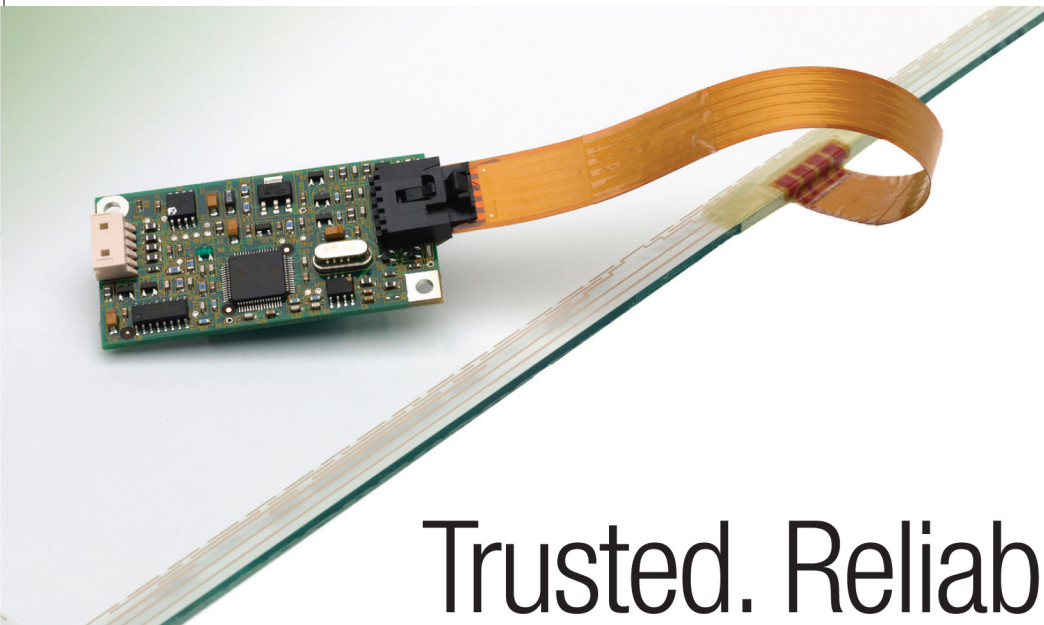
After the machine booted up (after what seemed to be an eternity) I was sure this nailed the problem. Well as my luck has it, it was not the case. Here is a recap of what was checked or changed:

- \* Reel control unit with game next to it.
- \* All three power supplies with spares (5V, 12/24V, and ATX)
- \* Three reel assemblies - spares
- \* CPU -spare
- \*BIOS EPROM
- \*Jurisdiction EPROM

What I’m left with is the machine will not come ready to accept money and the help button is still grayed out. Everything else, including the test menu and options, are good. No tilts or errors are in the upper right corner of the test screen, nor in the event history screens. It looked like an accounting system had the game disabled but it didn’t say it. I did call them and they had not disabled it. Let’s change out the comm box and player tracking controller just for the fun of it. Still no change . . .

The only items that were original to the game that went into the spare CPU are the OS, Game cards, and PCI board. Because these had to be ruled out, I borrowed one at a time from the same machine next to me. All the games on this bank are the same. These machines are progressives and I really don’t like to disturb them however I was out of options. I still wasn’t confident I was zeroing in on the culprit, so I did one card at a time. If there is a bad device somewhere I don’t want to do them all at once. I need to verify every little step from this moment on during the process in case there may be a problem with a card that could take out a good working board. The OS got changed first. I swapped both cards and booted up the machines at the same time. The original OS allowed the game next to it to come up for play. I did the same thing with the





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game theme CF card, and that worked properly also in my donor machine also.

So now that leaves me with only one item left that hasn't been changed. It is what Bally calls a PCI card. (P/N 103106) This is an expansion board that is mounted in the CPU next to the power supply in a socket. It has six sockets for payable EPROMs. Each one coincides with the hold options on the setup screen. The payable numbers on the screen match the labels on the EPROMs. There are two EPROMs for each payable. Because I have the same exact machine next to me, this is the last thing to change. The EPROMs and versions MUST be exact to do an even swap or the machine will fail to boot up and tell you the PCI board is not present and stop.

Both PCI boards were swapped at the same time. This had to be it, as there was nothing else left. Saying a few more choice words to both machines now during bootup a few other slot techs gathered around to witness the awakening. There it went, the problem moved to the machine next to me. The original game was up for play, BV bezel lit up and the Help button worked! OK, so now to reverse everything and leave the game next to me alone. The problem followed back.

Now that I have isolated this issue with the PCI card I did manage to find a spare

empty card from some old conversion kits. Nothing looked bad, no bent pins, or cold solder. I moved all the EPROMs over and installed the card in the CPU and turned it on. After it came up the problem was still there. How nice. Do I have to take out every IC and check them one at a time? Yes, I do.

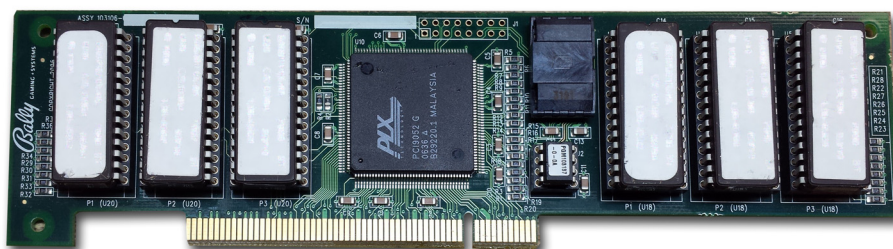
All of the EPROMs were removed except for the payable I was using. Turned it on and viola! The game is now working. Just to humor myself I put in all the EPROMs again and it went down again. Thankfully, the bad EPROMs were not used.

But what made the EPROMs go bad? In the

beginning of this article I mentioned the main ATX power supply in the CPU had died. It was rapidly turning it on and off until it fried (Two 1500uf caps in output stage).

Recently, another machine developed this same exact issue. The ATX power supply went bad and was changed with a rebuilt one I had made. A day later, it developed the Reel 4 tilt. I RAM cleared it and the BV didn't work. I removed the unused EPROMs and it came right up, and has been up for a two weeks. That whole process took 10 minutes!

- Chuck Lentine  
[clentine@slot-techs.com](mailto:clentine@slot-techs.com)



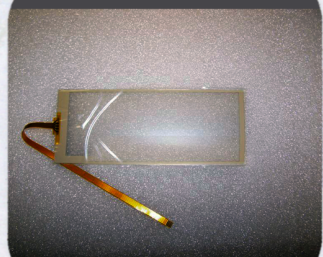
The culprit revealed! A bad PCI card (labels obscured for security)



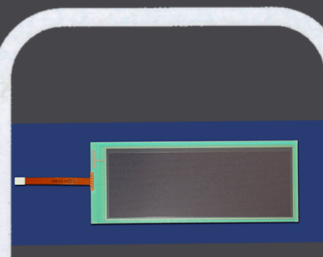
The installed PCI card.



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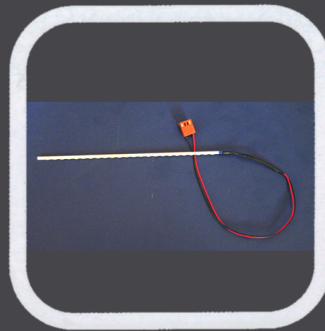
5 wire touchscreen Bally Iview IDW  
LCD



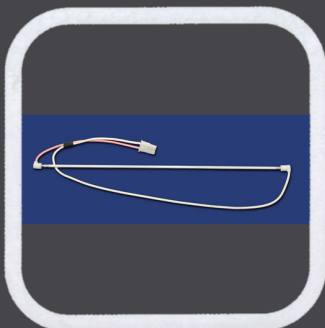
4 wire touchscreen IGT NexGen  
LCD



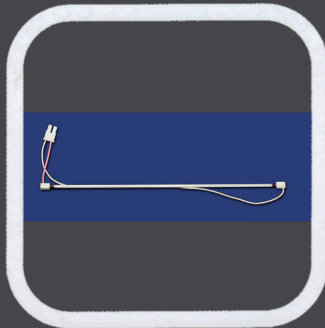
LED Strip for Bally Iview LCD



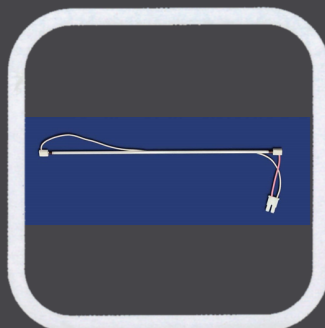
LED Strip for IGT NexGen LCD



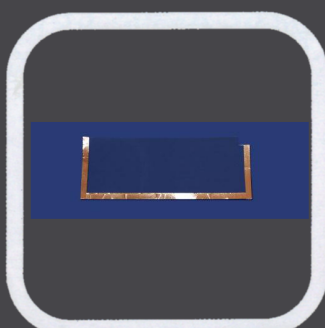
CCFL assembly for Bally Iview  
IDW LCD



CCFL assembly for IGT NexGen  
LCD



CCFL assembly for Bally Iview  
Hitachi LCD



Protective Mylar for IGT NexGen  
LCD





### IGT "GAME KING" UBA Problem

A slot attendant asked me to bring a sledge hammer to a "GAME KING" video poker that apparently had bill acceptor problems off and on all day. She said after reseating the stacker box, the first bill would accept OK, then the second one inserted would jam every time. The transport assembly was removed and inspected. Next, the cash box was inspected. Nothing looked out of the ordinary that I could see.

When the box was inserted, the bill acceptor didn't sound quite right during the cycle. The box was removed once again for a closer look but nothing appeared to be jammed when looking through the "cash box view window." When looking at the gears on the box, the problem was very obvious. One of the teeth was missing on it! Without a doubt this would cause problems. The box was replaced with a spare, so no more bill acceptor problems with that one.

## Quick & Simple Repairs #101

By Pat Porath

### UBA 10-SS Not Cycling Properly

A call was received in which a UBA 10-SS IDO OO3, in a Konami game, didn't sound very good. As most of us know, when a bill acceptor is power cycled or reseated in a game, the unit is supposed to make a specific "start cycle" or "power up" sound. When the bill acceptor does make a normal cycle, it is ready to accept bills and tickets. Somewhat common failure sounds of JCM UBAs may be grinding of gears when an item is jammed inside of the cash box or if a box isn't seated





properly. Or the unit may continually cycle (possibly searching for the cash box) until it times out and stops. Most of the time reseating or properly seating the cash box will fix the error. There is also the possibility of broken teeth on a gear somewhere. It could be on the TR stand or cash box. I haven't seen very many broken gears on transport units themselves. With this certain UBA, it only started the cycle process then stopped. I gave the bill acceptor a "once over" along with the cash box but nothing appeared to be wrong. Once again, when the unit was put back into the game, only a slight cycle process would happen. The bill acceptor optics were quickly cleaned, the "blue cash box" button (bill stacker) was pressed (it moved freely), all of the gears seemed to move freely.

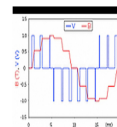
What was I missing? As told in the past by experienced techs "Many times the problem is right in front of you if you LOOK." So I took an even closer look at the bill acceptor. This time, I noticed a small crack on the side of the blind connector located at the rear of the unit. This makes a proper connection to the game when it's seated. I also noticed a connector pin was NOT in the hole where the crack was. Was there supposed to be a pin in it or was it left blank? I grabbed a spare UBA 10-SS IDO 003 off the shelf and observed the pin IS supposed to be in that certain spot (all had pins in the connector). When the spare was put into the game, it worked perfectly. It wasn't even very long after the bad bill acceptor was put onto the repair bench that a replacement connector was being installed. Once again, many times a failure is obvious when you look closely in the suspected "failed area."

### **Aristocrat "Superman" Verve, Weird Looking Ticket**

A cashier cage employee stopped me while I was walking past and asked if I would take a peek at an unusual looking ticket. Without a doubt it looked weird, it didn't

even say "Island Resort and Casino" on the front. It did validate and had the casino logo on the back so I was 99.99% sure it was a valid ticket. What game did it come from and why did it look weird? The machine number was punched in at a computer that had Oasis Diagnostic Monitor up on it but the machine did not exist in the system. I also tried to track the amount, but was unsuccessful. The cage did say it was from a "Superman" game, which is an Aristocrat Verve. We only have four of them so all were tested. Sure enough, the third game was the culprit. Under bill acceptor\voucher settings, the voucher setting was on "BASIC LAYOUT" not "EXTENDED LAYOUT" like it was supposed to be. We could select the "EXTENDED LAYOUT" option but we could not save it because the logic door had an Aristocrat lock in it. The logic door had to be open in order to SAVE the option setting. About two hours later I got a call to the security podium that an Aristocrat tech was here. He asked if we had a problem with a "Cash Express" button panel. We didn't that I was aware of but I just had a three day weekend. We checked out the bank of games and didn't see any button problems. I then explained that I had another issue so I told him the deal with the weird ticket. We weren't sure how it

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happened because the default is supposed to be “extended layout” so he set the option accordingly and saved it. A test ticket was inserted and printed out. This time it looked normal like it was supposed to be. A very simple improper ticket option was the problem.

### **Ainsworth Progressive Bank With a Dead LCD in the Sign**

I make a lap or two around the gaming floor in the morning to see if any games were shut off that weren't supposed to be or any signs or sign lights need to be repaired. Periodically, I also test some of our IGT G20 video poker slots to make sure the touch screen is working. Once in a while, one will not work and the game needs to be rebooted. I also take a walk through our main bar area to test touch screens, just to make sure they are working and to make sure the bill acceptor light is lit up and ready to accept bills or tickets. Anyway, while coming out from the bar area I looked up at our bank of Ainsworth Ambassador progressive sign, and the LCD looked totally black. It may be “back lit” a little but I couldn't tell for sure. I thought to myself, darn! The LCD in that sign was just replaced a month or two ago. What the heck? After finding the main power cord for the sign I

unplugged it for about 15 seconds, then plugged it back in. Now I could see the LCD was in fact slightly back lit. This told me it had power but no graphics. Once I found the sign controller-most seem to be in the slot base, a few are up in the sign-I hoped a simple reboot would fix it. Sure enough, after a power cycle it booted up perfectly.

### **WMS “OZ” Game Freezing up in “Monkey Bonus”**

If you have a WMS “Wizard Of Oz Haunted Forest” game that freezes up once in a while during the “Flying Monkey Bonus,” there is a software upgrade available for it that fixes the issue. The upgraded software is as follows for a regular non-WAP game: S7F0-000-1030. The software that may have the issue is: S7F0-000-1000, S7F0-000-1010, S7F0-000-1020. As far as WMS WAP “OZ Haunted Forrest” software, the upgraded software is S7F1-000-1040 and S7F2-000-1040. WAP software that may have an issue is S7F1-000-1000, S7F1-000-1010, S7F1-000-1020, S7F2-000-1000, and S7F2-000-1030. More info can be found on wms.com secure site. The (customer service notification) CSN # for the U.S. is 130716-01. For Canada the CSN # is 130722-01.

### **WMS Bluebird LCD Touchscreen Wouldn't**

### **Calibrate Properly**

While checking some numbers with a co-worker on multiple games (68 total one day) I came across a WMS game with an LCD touch screen wasn't working properly. Something was going on with the upper middle part of the screen but what was it? Two separate touch screen calibrations didn't help at all (With the doors closed, turn reset key three times to calibrate.). When touching the screen with my finger tips and the back of my hand, I couldn't feel a bunch of grime or any deep scratches. Next, I used my flashlight app on my iPhone (because I always lose small flashlights LOL) and could NOW see a fair scratch that was exactly in the suspected bad area of the touch screen. It was replaced with a spare and was fine. Nothing really major because it wasn't “off” a whole lot but if a customer touched the wrong item during a bonus round, they might not be too happy.

### **IGT MLD “Vertical Line on Monitor”**

I personally thought this was some interesting info that I read while checking different manufacturers' customer notifications. (a.k.a. CNs ) IGT MLD “vertical line on MLD monitors.” If you have a “Golden Goddess” or a “Vivaldi's Seasons” program having a

16:9 aspect ratio, on a MLD (multi layer display) and it has a one pixel black line in it, a program upgrade may be needed. According to CN 4863 rev Z "When run on machines equipped with a 16:9 aspect ration MLD monitor, the games displayed a 1-pixel black vertical line on the screen." "Golden Goddess" old program and media "x" would be replaced with new program and media "x." The same with "Vivaldi's Seasons" program. New replacement software fixes the small horizontal black line on the game screen. More info can be seen on IGT CN 4863 Rev. Z.

### **Bally "Golden Banjo" "Texas Dice" "Choco Choco" Games Freezing During Play**

If you have any of the programs above and the games are freezing (locking up, unable to play and a reboot is needed) there may be an OS and video CF card conflict. If they have OS (operating system) card BAL\_356 and Nvidia 600 video card you may want to replace them with either a BAL\_OS361C or a Nvidia 2000 card. Replacing one or the other should fix the game freeze problem. The Bally part number for the Nvidia 2000 card is 219106 and the Bally part number for the OS card (BAL\_OS361C) is 238676. More info can be found at ballytech.com, Field Advisory number FA-13244.

## **WMS CPU-NXT3 Board LEDs and What They Mean**

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**D7 green On = 5vdc power indicator**

**D8 green On = all power is good**

**D13 green On = 12vdc power indicator**

**D16 green flashes = ATI video source**

**D17 green may flash if a third video is attached = Intel video source**

**D43 green flashes if game CF card was accessed**

**D44 green flashes is OS CF card was accessed**

**D46 may flash green is SSD is installed and was accessed**

**- Pat Porath  
pporath@slot-techs.com**

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# Technique for Choosing Suitable Replacement Fans for Gaming

By Henry Kollar

those who advertise here in Slot Tech Magazine but it is not always the wisest path solution because there is little information about the parameters of a particular type of spare part.



when there is insufficient cooling leads to rapid reduction of the life electrolytic capacitors.

**T**his article deals with the selection of suitable fan for cooling different parts of the gaming machines as a replacement for the original fans.

Surely between us technicians and buyers of spare parts, we are looking to save costs by choosing the most appropriate replacement part so that the life expectancy is higher when compared with original replacement part as far as possible and that the price of the spare part is less. When considering the various options, we are open to compare different offers from various retailers and manufacturers of similar parts.

Of course, you can order fans from the slot machine manufacturer or from some distributor of spare parts in gaming industry such as

Sometimes it also happens that you need to replace the faulty fan NOW because it is necessary to fix the machine as soon as possible and you can not buy anything like this from your distributor. In this case, especially for larger firms, it is suitable to purchase large quantities of the same type of fans at substantially lower prices and exchange them through preventive maintenance and prevent future failures.

Editor's Note: I totally agree with this concept of preventative maintenance.

An experienced technician can carry out regular checks for the statistics of failure and use his/her experience to estimate the weak spot in the device and let's not forget that excessive heat build-up

For example, we might know that a certain type switching power supply is fan cooled and that the life of the fan is approximately three years nonstop. In the case of a cooling failure, the life expectancy drops like a rock and failure of the power supply occurs much earlier. Repair is much more complicated and costly compared to the price of a new fan. Overheating also in fact reduces the breakdown voltage of semiconductor devices and also their maximum current load.

It is therefore appropriate preventive maintenance to replace the fans before a total malfunction or slowing of the speed and reduction of the flow of air in the system and overheating.

Taking into account the

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## TESTIMONIAL



"The best investment our casino has ever made."

Thank you for putting on a great TechFest. I've always felt that, when I sent two of my attendants a couple of years ago, it was the best investment our casino has ever made.

That feeling was only reinforced this year when I was finally able to attend myself, along with Erika Andrews, one of my attendants. As far as bang for our training buck goes, there is nothing better. Every single session contained practical information to help slot departments save money.

Thanks, again, Randy. I hope to send more of my staff next year.

Pat Owens  
EGD/Slot Manager  
Elwha River Casino  
[pat.owens@elwharivercasino.com](mailto:pat.owens@elwharivercasino.com)

Erika Andrews and Pat Owens rocking one of our many "hands-on" labs at TechFest 27. It seems that there's more to "The Button" than meets the eye!

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environment of casinos and gaming rooms, then you must be aware of the fact that cigarette smoke and ash generally causes a reduction in the life of relatively high quality fans.

A mixture of cigarette smoke and ash in the air that is sucked fan creates a grinding effect and causes clogging of the fan bearings which over time gradually increases the friction of the bearings to unacceptable levels and gradually reduces the fan speed until it stops completely, seizing the propeller. For these reasons, I recommend using only fans with sealed ball bearings despite their higher noise.

Of course there are other types of bearings e.g. "MagLev," "Vapo," sleeve bearings, "Hypro," "Hysynt," but their life is significantly lower. Also, the cost of fans with sealed ball bearings is relatively the highest but the price difference is not so high as the damage caused by premature failure of the fan with, for example, sleeve bearings.

Some devices use different types of filters, which are often not cleaned regularly and thus the effort to reduce the number of service calls misfires.

Several years ago, I analyzed the most common causes of fan failures and I came to the conclusion that 99% of failures were caused

just by the bearing problem. For fans with two ball bearings, the upper bearing always malfunctions. In doing so, it does not matter too much on the brand of the fan. These defects are suffering from all types and brands.

Editors Note: I agree 100% with this. Bad fans are almost always "stuck" and are not free-wheeling as they should. It is rare to find a bad fan that spins freely but simply doesn't run.-rf

It is needed to mention that some types of fans from manufacturers Nidec, SUNON and Sanyo are more durable but at the same time, the price is more than three times higher than other brands.

I tested the specific types and found the average life of non-stop operation without a filter:

Y.S.TECH FD246015MB - two sealed ball bearings - 3 years

Y.S.TECH FD124010HB - two sealed ball bearings - 2.5 years

NMB 1604KL-04W-B49 - two not sealed ball bearings - 3 years

DOCTOR COOLER SF-6015 -one ball and 1 sleeve bearing - 2.5 years

YOUNG LIN TECH DFB601012H - two sealed ball bearings - 4 years

SUNON ME60151V1 - MagLev bearing - 2 years

SUNON KDE1206PHV1 -



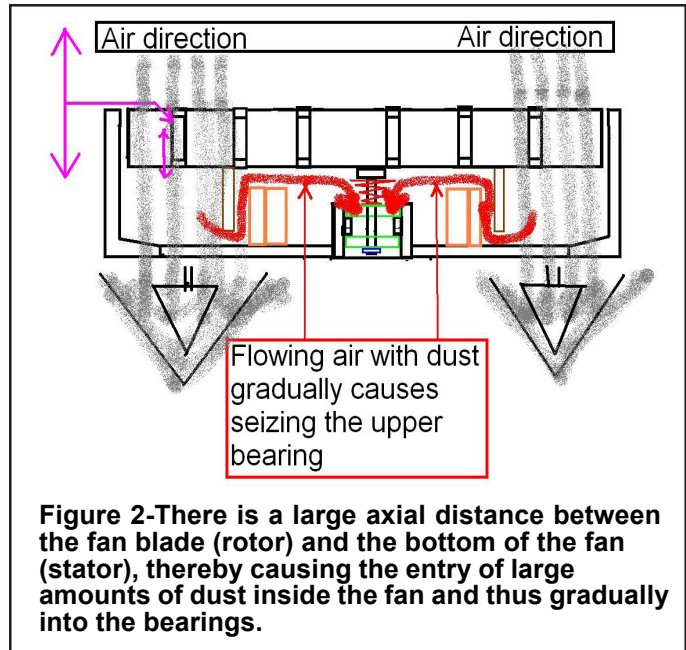
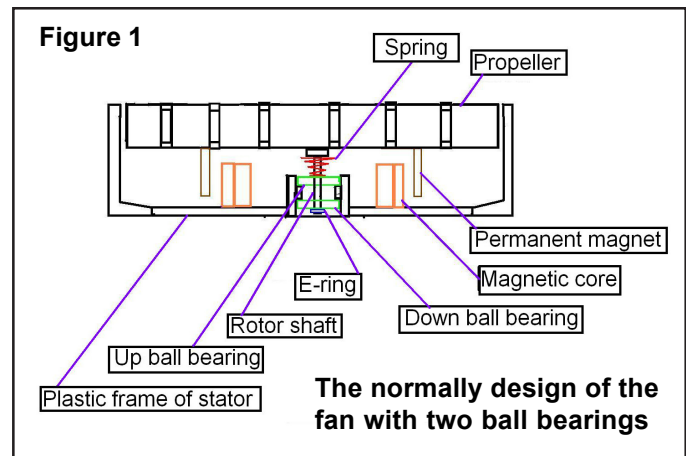
MagLev bearing - 3 years  
 SUNON KDE1206PHB1 - two sealed ball bearings - 5 years  
 Nidec D05X-12TM - two sealed ball bearings - 5 years

Most of the fans with “Hypro,” “Hysynt,” and sleeve bearings do not last longer than one year.

Differences in the life of fans with ball bearings mainly depend on the accuracy of components, mountings and distance between rotor assembly (propeller) and the stator. Therefore fans Nidec and SUNON KDE1206PHB1 have the highest life.

The normally design of the fan with two ball bearings is shown in Figure 1. There is a large axial distance between the fan blade (rotor) and the bottom of the fan (stator), thereby causing the entry of large amounts of dust inside the fan and thus gradually into the bearings as shown in Figure 2.

For these reasons, I contacted several manufacturers of fans in china, one of



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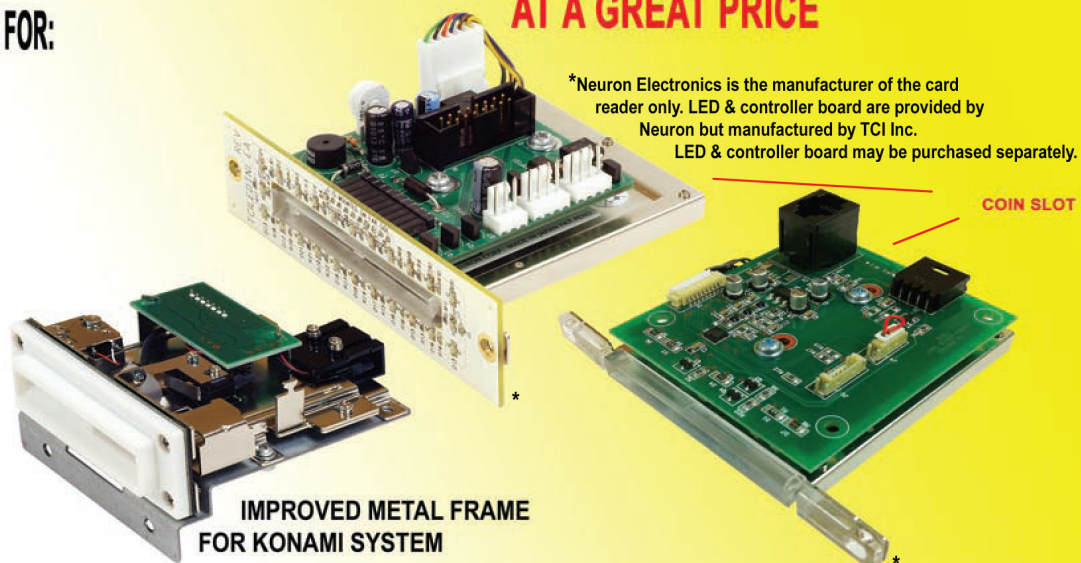
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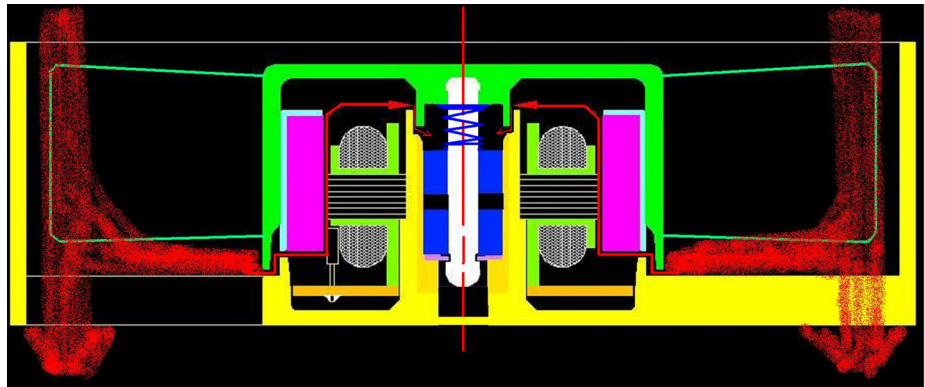


whom is keen to improve and modify its products and the price is favorable. This is a company called TOPFAN <http://www.topfan-china.com>, contact person [grey@topfanchina.cn](mailto:grey@topfanchina.cn). On the basis of communication with this manufacturer, he has developed measures against excessive ingress of dust as shown in Figure 3, the so-called "DustProof" design.

The company produces almost all kinds of DC and AC fans, blowers etc. It is also possible to order the fans produced with different types of connectors with speed signal output, PWM, temperature sensor speed control and others. Life cycle assessments of the TOPFAN DustProof series in dusty environments is 6-7 years nonstop.

When searching for an appropriate replacement, it is advisable to check the original parameters and specifications. The most important parameters are:

- size and method of installation (millimeters, inches)
- supply voltage, current consumption and electrical type of DC or AC (volts and amps)
- air flow at rated power supply in CFM
- type of connector and connection of signals
- declared basic life versus price
- construction, resistance to



**Figure 3-The "dustproof" design**  
dust and used bearings.

If your dealer can not answer those questions, try to read the nameplate on the original fan and look on the manufacturer's web site and compare with other products.

- Henry Kollar  
[kondy73@gmail.com](mailto:kondy73@gmail.com)

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Editorial - Cont' from page 3

However, I couldn't have been more wrong. Not only did I NOT have the new and totally awesome relationship with IGT that I thought I had, upon planning TechFest 28 for Las Vegas, Nevada in order (specifically) to be in Mr. Rigg's hometown of Las Vegas (and thereby saving the cost of his expenses), IGT informed me that going forward, they would charge TechFest \$200/hour for Mr. Rigg's services. EXCUSE ME?

Look, I don't deny that TechFest is a "for-profit" event. It's what helps me keep Slot Tech Magazine going. Regardless, the concept behind TechFest is to teach our industry's working slot techs how to FIX the stuff that fails. Honestly, it takes cojones for any manufacturer to stand up and say "these are the 'issues' we have with our gear and here is how to resolve them." I stand and salute all of my TechFest presenters. I consider them to be the finest technical trainers in the casino industry.

However, for IGT to demand \$200/hour for a two-hour presentation at TechFest (in their own back yard) in order to teach slot techs how to fix IGT's own stuff, well that's just beyond the pale. It's an outrageous demand and, on principle, I have "uninvited" IGT from TechFest 28. I hope they'll reconsider this policy in the future and return to TechFest as a featured presenter. Perhaps I just spoke to the wrong people about the event and that someone else at IGT might reconsider, seeing the value that IGT could provide to the slot techs with very little effort on their part. I'll be the first to ring it from the rafters if they do as I am extremely disappointed that I could not include an IGT presentation at TechFest 28.

Slot Tech Magazine welcomes the participation of casino industry OEMs and vendors at TechFest. If you're interested in participating as a speaker at a future TechFest, please let me know and I'll do everything I can to accommodate you.

*Randy Fromm*

**Publisher  
Slot Tech Magazine**



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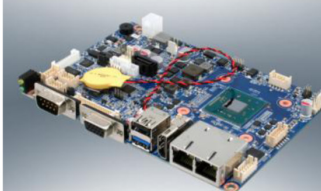


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## Avalue introduces a new 3.5-inch single board computer – ECM-BYT

**TAIPEI, TAIWAN, October 8, 2013** – Avalue Technology Inc. (TAIEX: 3479-TW), global embedded solution provider, associate member of Intel® Intelligent System Alliance. Avalue is unveiling a new 3.5-inch single board computer – ECM-BYT. ECM-BYT is powered by the newest Intel® Atom processor E3800 product family, a system-on-chip (SoC) formerly codenamed “Bay Trail.” Based on the 22nm Silvermont microarchitecture, these new processors are designed for intelligent systems and applications with low power consumption and high performance requirements.

ECM-BYT



The 3.5-inch single board computer, ECM-BYT, is a fanless design that supports one 204-pin DDR3L SODIMM system memory with up to 8GB DDR3L 1333/1600 SDRAM capacity. It supports dual-channel 18/24-bit LVDS and dual display (CRT + LVDS, HDMI + LVDS or CRT + HDMI) configurations. The rich I/O deployment includes 1 SATA II, 1 mini-PCIe, 1 USB 3.0, 3 USB 2.0, 4 COMs, 8-bit DIO, enabling a variety of embedded applications. One audio jack supports Realtek ALC892 supports 5.1-CH audio and two Intel® I210AT Gigabit Ethernet controllers.

Avalue’s ECM-BYT platform board brings enhanced stereoscopic 3D capabilities, high-resolution graphics, data integrity, reliability, and system uptime to meet intelligent systems requirements. The ECM-BYT is an ideal solution for many intelligent systems, such as kiosk, vending machine, entry POS & ATMs, automotive, retail, medical, security, surveillance, and in-vehicle infotainment.

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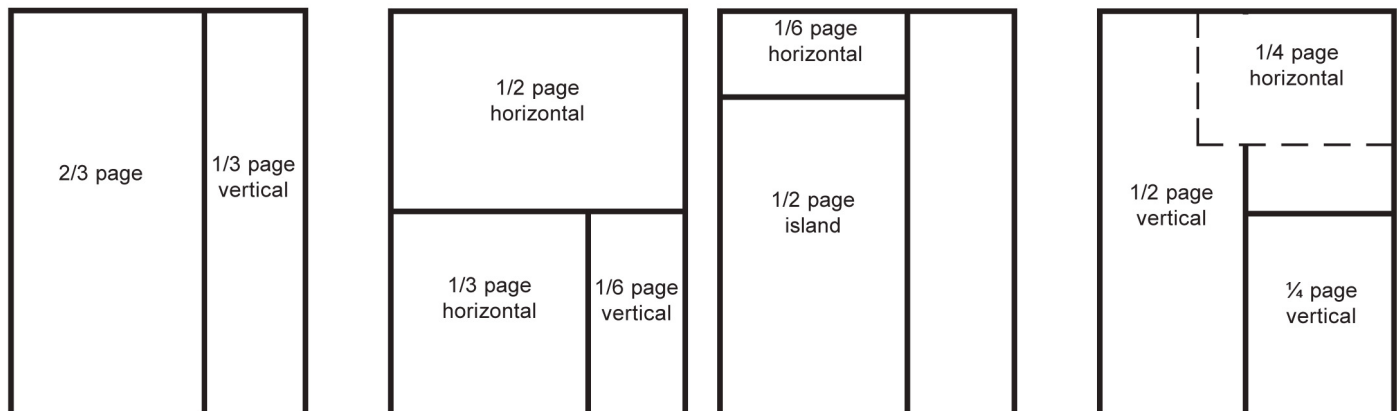
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About Randy Fromm: I am the publisher of Slot Tech Magazine. First published in 2001, Slot Tech Magazine is a monthly trade journal focusing on casino slot machine repair. I have been repairing electronics for the gaming industry since 1972. I really enjoy what I do and I love showing others how easy it can be. ***No previous knowledge of electronics is required.***

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