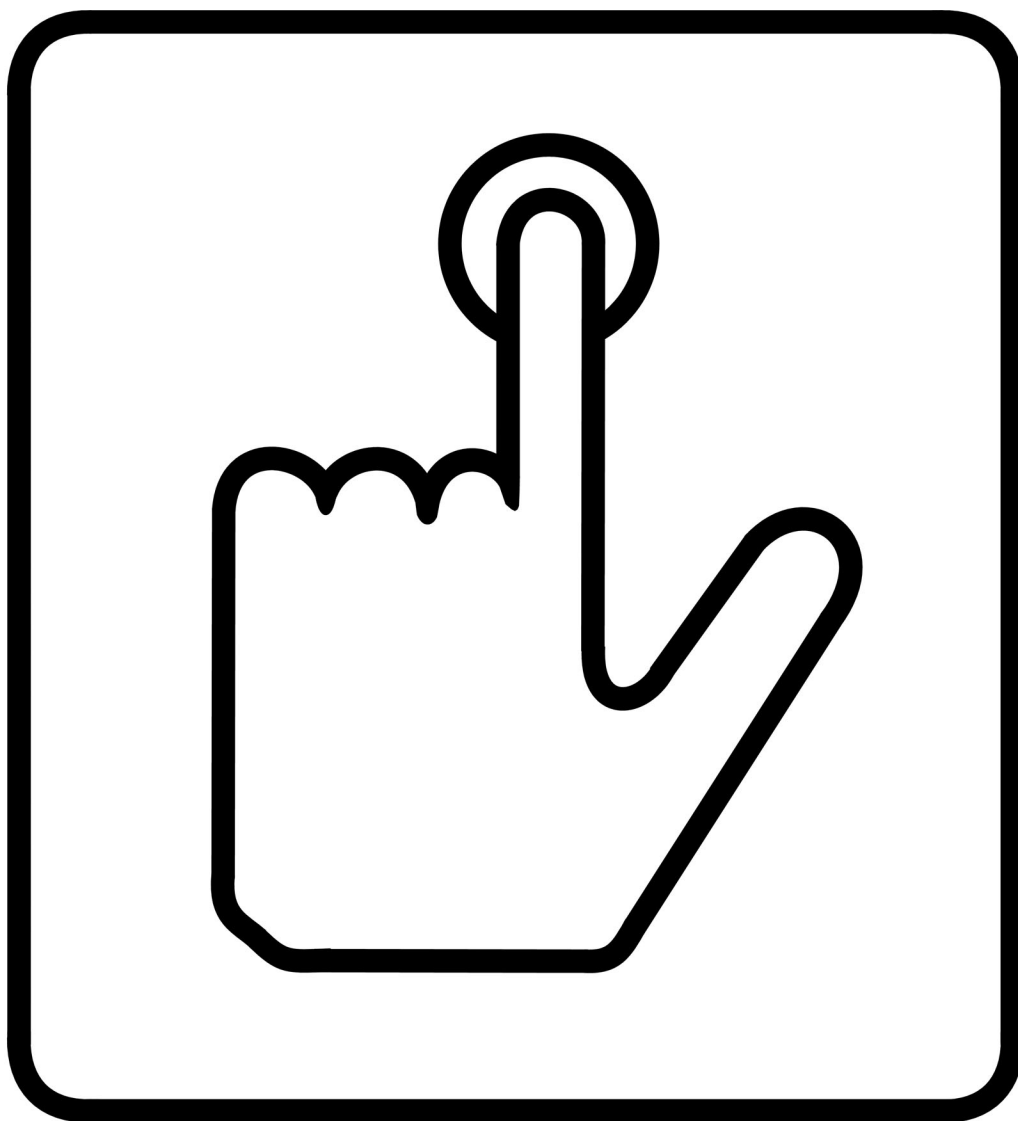


January 2011

SLOT TECH

MAGAZINE

Slot Machine Technology for the International Casino & Gaming Industry



Slot Tech Magazine

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Advantech-Innocore's
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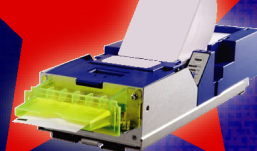


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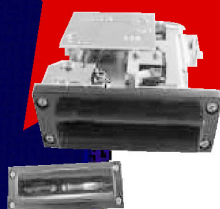


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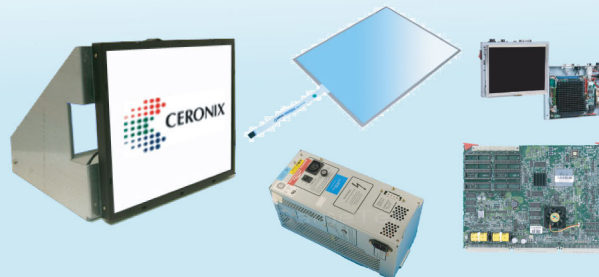
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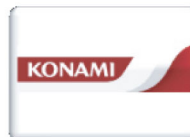
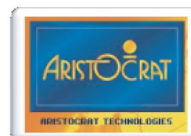
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Dear Friends,

This year, 2011, celebrates our tenth year in publication. They say most startups fail in the first two years so when 2003 came and went with the presses still rolling, I was confident the magazine would survive as long as I continued to receive contributions from you, the folks that staff the slot departments of casinos around the world. After all, I am just the publisher. I may be an electronics nutcase but I don't work at a casino every day. I depend on working slot techs to continue to contribute top quality material to the magazine.

And you'll have to agree that we have some really great contributors. I first met Pat Porath at a regional slot tech class I held at his casino. I'm sure neither of us ever thought that he would ending up holding the record for the sheer number of technical articles he has written (70 to date). Canada's Kevin Noble has been with me for many years as well and is now a popular technical instructor as well as technical writer and full-time slot tech. I am extremely pleased (as I am sure are you) with the recent contributions from both Craig Nelson and Chuck Lentine. I have read and re-read Chuck's December article (the one about the WMS Bluebird that catches fire due to a short in the wire loom) six times now. Craig's premier offerings are just superbly educational and I love his photo illustrations.

Of course, the advertisers make it all possible by paying the bills so please, buy a few new chairs from Gary Platt, order some 3M touch screens, CCFLs or other replacement parts from Suzo-Happ, Patriot or AG&E, order your new slot machines with FutureLogic Printers, get some Kortek parts or have something fixed at CasinoTech when you're pressed for time and, if you're in Las Vegas, stop by and say hello to the nice folks at Kiesub Electronics. Oh, and don't forget to order some Slot Tickets!



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IGT Dynamic Buttons

By Craig Nelson

IGT developed an OLED (Organic Light Emitting Diode) Button System around 2008. Their objective was to anticipate the demands of the consumer for more efficient game

conversions and system based (server based) gaming. They called their version a “Dynamic Button” but it follows the same technology as others such as the WMS OLED Button (Slot Tech Magazine, November 2010).

The visual result for the player is virtually the same amongst the numerous OLED Button Systems.

However, the way they get to that point is entirely different. In this article, the IGT Dynamic OLED Button Panel System will be outlined. Potential problems will be highlighted, how to repair those problems and, most importantly, where and how to get the parts. The system consists of these main parts (see below):

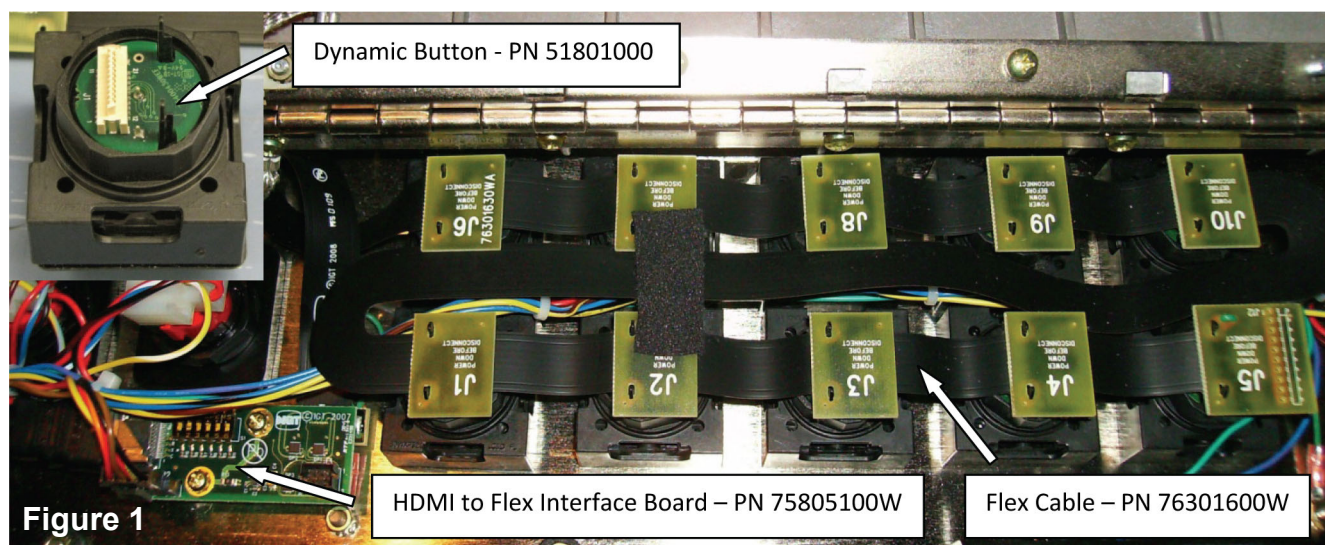


Figure 1

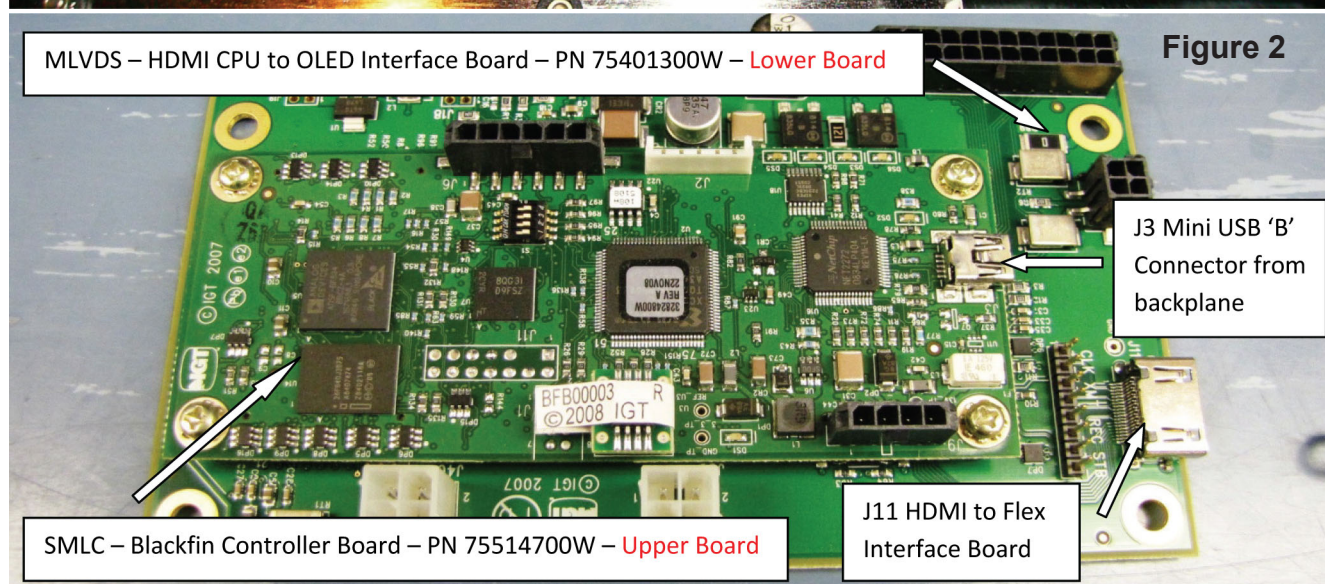
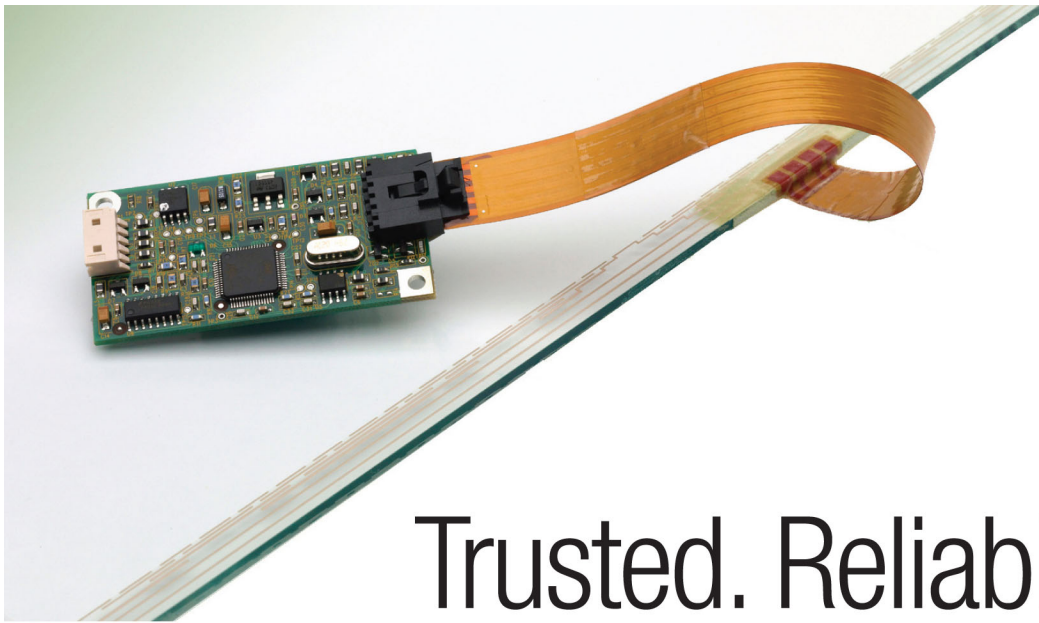


Figure 2



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'MLVDS' stands for Multi-Point Low Voltage Differential Signaling and 'SMLC' stands for Serial Motor and Light Controller. The MLVDS (the lower board) gets its power source from the belly door power source on the backplane board. It can plug into either J39 or J40

port. The SMLC (the upper board) gets its power from the MLVDS. It should be noted that these boards appear to be fairly stable in the field.

The main issues you are going to find in the field with this system are drink spills, the Flex Cable, and the Dynamic Buttons themselves.

Note: Whenever performing work on these button systems you should have the machine power off. You should use proper ESD mitigation practices as these devices are sensitive to static discharge.

If you come upon a single button that is not lit up, you should start by opening up the machine and checking the flex cable connection to the button. When your cash count team goes through and removes the stackers, they often bump the connections making the button inoperable. In worse cases, the connectors are broken and either the button or the flex needs to be repaired or replaced.

The second thing you should check for is evidence of a drink spill; this is the most common cause for these

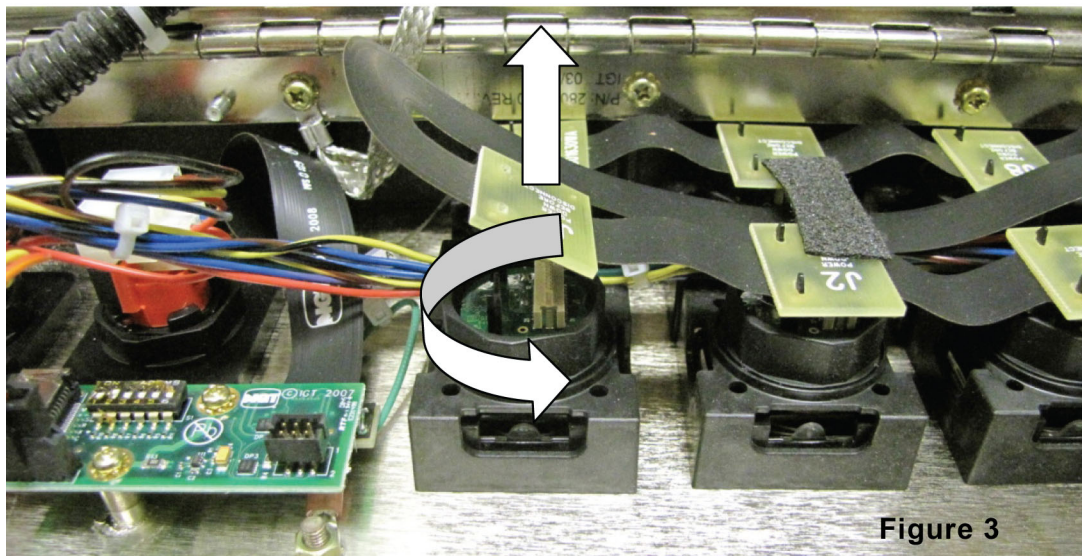


Figure 3

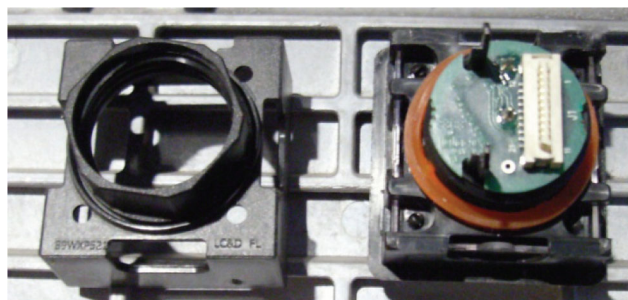
buttons to go bad. In some cases you can take the button out, clean the connections then let it dry to get it to work (this will be covered later). If there is evidence of a drink spill you should remove the parts that are affected and inspect them for damage. If the Flex Cable connector is fried, you will most likely have to replace the whole cable. If the button is fried, you will have to replace the button. It is very unlikely that either of these parts can be repaired in the field. Cleaning and drying would be virtually the only potential solution outside of replacement.

To remove the button you will need to perform the following procedure (refer to figure 3):

1. Turn off game power and use ESD practices.
2. Pull up on Flex Cable connector (there are two tabs on top you have to push towards each other). Be careful not to damage the Flex Cable.
3. Unscrew the plastic button nut while holding the

button from the bottom.

You will be left with these pieces in your hand: The OLED Button itself, the plastic nut, and the plastic spacer/housing. You will



now need to determine if the button can be salvaged by cleaning or if the button needs to be replaced. If cleaning is your option then proceed to the next section. If replacing is your option then retrieve a button and replace it using same method as removal but reverse the instructions.

To clean a Dynamic Button/Harness (this only applies to the IGT style): 1. Turn the game power off and use ESD practices. 2. Use a rag to clean off any excess liquid that may still be in the machine. 3. Use a small fine brush (such as the "acid brush" shown) with plain water to clean off the connectors and Flex Cable.



Bob Yabroff
President

“I have always supported Slot Tech Magazine”

“But to tell you the truth, the content of this magazine is gobbledygook to a seating guy like me.”



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4. To clean the button housing, IGT suggests using a 10 ml syringe to push water down through the housing repeatedly to get any liquid residue (dry or wet) out. Obviously if the liquid residue is dry you will have to repeat the steps more than if the drink spill is fresh.



Depending on the severity of the soiling of the button assembly, you might have to remove all buttons and the harness and rinse them all off in a faucet until you get them clean. Remember you do not want to use any solvents to clean these buttons; just plain water will be fine.

Before installing back in the machine, you will need to dry all parts very well. Low air pressure will help in the drying process but be careful not to use too much pressure as it could damage the connectors and Flex Cable.

When the button is drying be sure to lay the button on its side (not lens side down) as this could let liquid leak into the lens and ruin the display completely. The Flex Cable (if removed to clean) should be placed connector side down so liquid does not pool

Disclaimer: This document is an overview of the IGT Dynamic OLED Button System operation. Please refer to your field representative for specifics in your jurisdiction.



into the bottom of the connector or lay in the mini-board.

If the parts are still sticky just repeat the above steps until you get a clean system of parts.

Once you are satisfied that you have successfully cleaned the whole system, you can now reassemble all parts that were removed. Remember to use correct ESD practices while handling these parts as they are static sensitive.

Upon powering up the buttons they should all light up and display the firmware version that they are utilizing. If you see a blank button you will need to power off the machine and check your connections. Do not hot plug anything other than the USB

or HDMI connections as it could damage multiple components.

Tech Note: You the Slot Tech are going to have to evaluate on a case by case basis whether or not you will need to remove certain parts in order to clean them. However, taking shortcuts and trying to clean parts while left in the machine could lead to other troubles in the future. It is suggested that each property have an entire spare panel to swap into the machine, this way the damaged panel can be extensively cleaned before it is returned into circulation.

This button system will only work with the AVP 14 Family or higher operating system software. If you are looking to retro fit any of these parts, you will need to perform theme update and/or an operating system/boot chip update. Talk to your sales rep for specific information for your jurisdiction as this might change from place to place and from system to system.

- Craig Nelson
cnelson@slot-techs.com

Here is a breakdown of the parts covered in this section:

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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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Aristocrat Builds a Better Button Deck

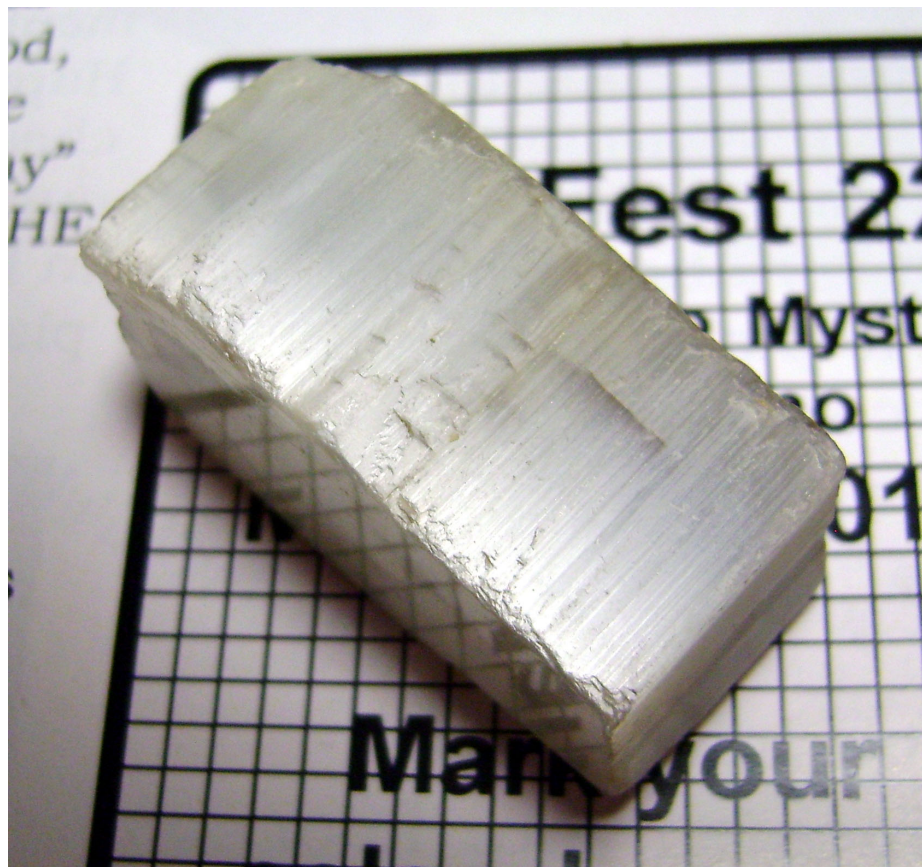
By Randy Fromm

As a boy growing up in Southern California, I spent a lot of time in the Mojave Desert. Actually, I still do. It's a wonderfully interesting place, full of animals, vegetables and minerals, the latter being my special interest. I just love minerals and, in the Mojave, you can find some unique and interesting specimens. One of our "home boy" minerals is something known as Ulexite. It's basically a mixture of boron—there is a lot of boron in nearby Death Valley where I also have spent a great deal of time. Are you old enough to remember "20 Mule Team Borax" and the "Death Valley Days" television program hosted by none other than Ronald Regan? That's where it's from—sodium, calcium, hydrogen and oxygen. I have a specimen of Ulexite (pictured) that I've owned for about 50 years. I've had it since I was a boy. It's probably my oldest possession.

What's so special about Ulexite and what does it have to do with the Aristocrat button deck? Well, I'm glad you asked (you did ask, didn't you?). Ulexite

has an optical property that makes it unique among minerals. It's a natural, coherent fiber-optic bundle. You can see in the photograph below, the parallel fibers that comprise the specimen. Each of these fibers behaves in exactly the same way as the fiber-optics with which we are familiar in the casino industry. Light shines in one end, internally reflects off the inside wall and spits out the other end. In Ulexite, there are thousands of

parallel fibers per square inch, each one is tightly locked together with its neighbors and they all transmit light. As a result, if you cut a piece of Ulexite with parallel faces and



polish them, the mineral will not only transmit light but it will also transfer an image from one polished face to the other. If you place the Ulexite on a flat surface, the appearance or image that is on the surface of the object seems to jump to the surface of the Ulexite! It almost looks like the top surface of the Ulexite is a TV screen. In fact, it's often sold as "TV Rock" in novelty stores or rock shops. Flash-forward to the present and the nice, flat screen of an LCD monitor. If you place the Ulexite on the surface of a display, the image REALLY pops to the surface of the Ulexite as the display generates its own light rather than passing the ambient light first down and then back up the fibers.

Fast-forward from my childhood to the present and imagine my surprise when I see "artificial Ulexite" showing up in a slot machine! It's a brilliant answer to the dilemma facing manufacturers of server-based slot machines, namely, how do you handle the issue of changing button legends? In a server-based game, we want to be able to make a game conversion without having to touch the machine to replace the program. Likewise, the game's artwork is changed as well, with an LCD monitor replacing the traditional, static marquis. So why would we want to mess with changing the legends on the buttons? The answer is, we don't! We want to be able to change the legends

ad hoc, without touching the buttons.

There is no such thing as "traditional" thinking here as this is all new but it's pretty easy to imagine that one way to do it is to make each button a tiny display. After all, small displays aren't anything new. I'm pretty sure you have one in your pocket or purse on your cell phone. Just mount a display on each and every button and wire them all up for power and video signal (don't forget the switch contacts themselves) or use USB to do it all and oh, by the way, you'd better ruggedize the hell out of the thing 'cause players are going to mash those buttons with all their strength and gee, I'd rather not have to pay a hundred



Artificial Ulexite

bucks for a frickin' button, if you don't mind.

That sort of seems to be the way things are headed in gaming, anyway. Gamesman had samples of OLED buttons they began showing a few years ago. Pretty neat. Each button was a monochromatic display with

Cont. Pg 16

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- 9680 Single raw cold cathode lamp for 17 inch LCD monitor in Konami games
- 9070 Single raw cold cathode lamp for 19 inch LCD monitor in Konami games
- 1100 Single raw cold cathode lamp for 22 inch LCD monitor in Konami games
- 1010 7 inch AU Optronics LCD #070VW01 for Konami bonus screen
- 1080 Cold cathode lamp inverter for 7" AU Optronics LCD #A070VW01 in Konami bonus screen
- 8550 Single "U" shaped cold cathode lamp assembly for Konami 7" LCD bonus screen
- 8590 Single cold cathode lamp assembly for Konami 1.5 video upright denomination back-lit panel

MULTIMEDIA

- 9700 Single raw cold cathode lamp for 15 inch LCD monitor in Multimedia games
- 9710 Single raw cold cathode lamp for 17 inch LCD monitor in Multimedia games
- 9720 Single raw cold cathode lamp for 19 inch LCD monitor in Multimedia games
- 9850 Single raw cold cathode lamp for 23 inch LCD monitor in Multi Media games

SPIELO

- 9740 Single raw cold cathode lamp for 15 inch LCD monitor in Spielo games
- 9750 Single raw cold cathode lamp for 17 inch LCD monitor in Spielo games
- 9760 Single raw cold cathode lamp for 19 inch LCD monitor in Spielo games

WMS

- 8490 NEW 6.4" LG LCD #LB064V02 (TD)(01) for WMS Bluebird bonus screen (**does NOT come with touch screen**)
- 8470 Single cold cathode lamp assembly for 6.4" LG LCD #LB064V02 (TD)(01) in WMS Bluebird bonus screen
- 8510 Triple cold cathode lamp assembly for WMS Bluebird 17" LCD monitor
- 8520 Triple cold cathode lamp assembly for WMS Bluebird 18" LCD monitor
- 9300 Single raw cold cathode lamp for 19 inch LCD monitor in WMS games
- 9830 Single raw cold cathode lamp for 22 inch LCD monitor in WMS games

Lamp Testers

- 9220 Bench top cold cathode lamp tester (**includes A/C adapter & power strip with ON/OFF switch**)
- 9840 Bench top dual ccfl inverter & lamp tester

Miscellaneous

- 1280 Raw cold cathode lamp 2.0mm X 250mm
- 1320 Single raw cold cathode lamp 2.4mm X 245mm
- 1420 Raw cold cathode lamp 2.6mm X 294mm
- 1290 Raw cold cathode lamp 2.0mm X 300mm
- 9910 Raw cold cathode lamp 2.0mm X 310mm
- 9970 Raw cold cathode lamp 2.6mm X 316mm
- 1190 Single raw cold cathode lamp 2.6mm X 342mm
- 8420 Raw cold cathode lamp, color white, size 2.4mm x 381mm
- 1330 Single raw cold cathode lamp 2.6mm X 385mm
- 1340 Raw cold cathode lamp, color white, size 2.6mm x 390mm
- 8400 Raw cold cathode lamp, color white, size 2.4mm x 394mm
- 1350 Single raw cold cathode lamp 2.6mm X 420mm
- 1020 Single raw cold cathode lamp, **purple color**, 4.0mm X 580mmRaw
- 1070 Single raw cold cathode lamp for Wells Gardner 6.4" LCD
- 8450 Single raw cold cathode lamp for 15" LCD in Touchtunes Maestro Monitor
- 9920 Single raw cold cathode lamp for 15 inch LCD in Touchtunes Genesis General Touch monitor
- 9960 Single raw cold cathode lamp for 17 inch ELO LCD
- 8440 Single raw cold cathode lamp for 19" LCD in MackVision LCD Monitor
- 1210 Silicone end cap for 2.6mm cold cathode lamp
- 1220 Single "O" ring for 2.6mm cold cathode lamp
- 1230 Figure 8 "O" ring for 2.6mm cold cathode lamp
- 9980 24v single output ccfl inverter for Aristocrat Viridian belly light
- 1250 Sharp 7" LCD #LQ070T3AG02
- 1380 One set of touch screen tape for 6.2 inch LCD Includes 2 long pieces and 2 short pieces of tape
- 8620 24 volt single output cold cathode lamp Piezo inverter

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something like 64X64 resolution (sorry, I can't recall exactly) but they were sure expensive, especially in comparison to a traditional button assembly.

In this month's issue, you just read about the IGT Dynamic Button system. Again, individual buttons are used, each with its own little OLED display. They look like the Gamesman buttons. I'm guessing they're just as expensive.

In the November 2010 issue of Slot Tech Magazine, we covered the button assembly used in the WMS machine (actually manufactured by a company called "Esterline Advanced Input Systems") that can be a costly alternative to a conventional button deck when there is a major failure.

The Alternative

As LCD displays have become a mature technology, we're seeing some really novel uses in slot machines. Aruze pioneered the "Transmissive Reels" concept that places a TFT sans opaque backplane between the player and the reels. Of course, no modern slot machine would be complete without a little "player tracking" display that is becoming/has become so much more.

But this one really caught me by surprise with the cleverness of it. Talk about your "out of the box" thinking, this actually made me stand up and applaud when I first read about it: Replace the plastic insert of the button with a piece of this artificial Ulexite (I don't know if it has a REAL name. If anyone knows . . .)

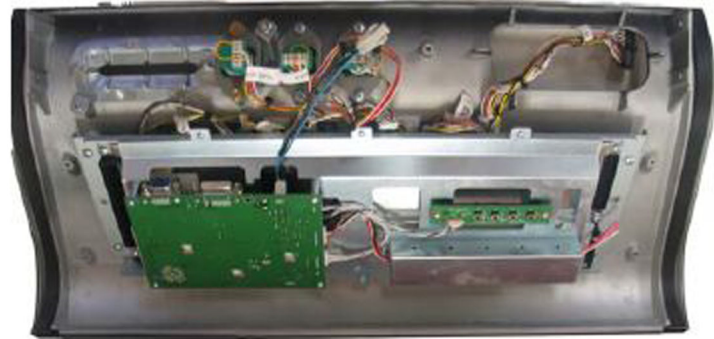
and a lens assembly and have the optical inserts of ALL of the buttons resting on the surface of ONE, totally normal LCD display with ONE, totally normal video signal powered by ONE, totally normal power supply. BRILLIANT! Different areas of the display are mapped for the different buttons. Any button, active or inactive, can be displaying virtually anything. It doesn't have to be words. It can display symbols, images, animations or even

full-motion, full-color video. The actual button mechanism is totally separate from the display, of course.

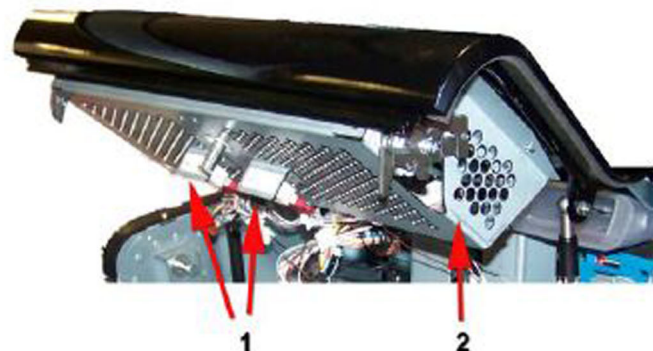
Another bonus is in the refresh rates. With individual displays, the CPU must go out and talk to each one in turn. As the number of buttons increases, refresh rates can suffer tremendously, causing a noticeable flicker in the displays and making any attempt at "video" primitive, at best. This,



LCD Button Panel



LCD Assembly Attached to Button Panel



Legend			
1	Security Switches	2	LCD Assembly Cover

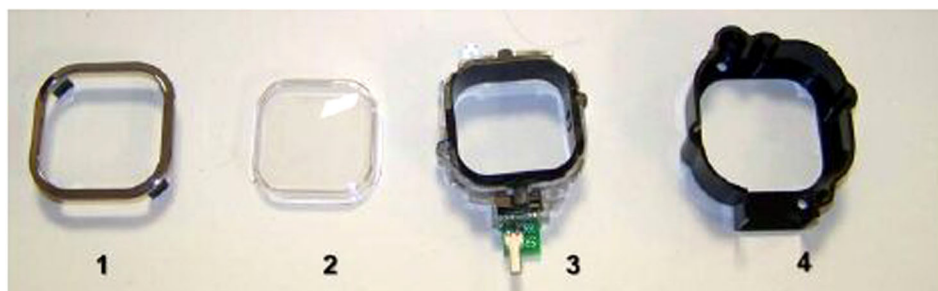
Button Deck Cover

however, is a normal monitor so it can display anything at a normal refresh rate of 60Hz.

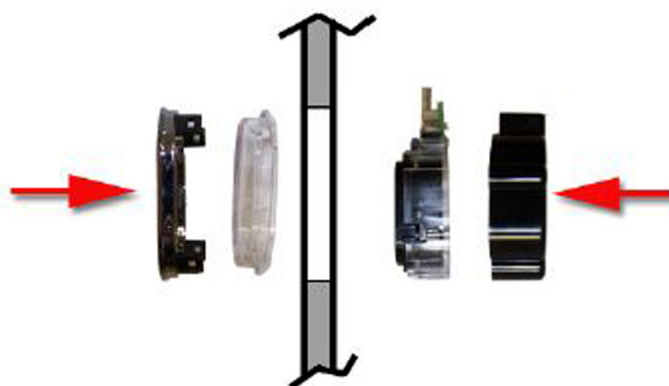
At this time, Aristocrat is using this new button deck in their new Verve cabinet. As such, the button panel is only available for participation games so casino technicians will likely not be working on it at this time. Regardless, it is the

opinion of the author that this system (one display, conventional button signaling) is far superior to that of having a myriad of tiny little display/buttons, all sharing a single, serial bus.

If Slot Tech Magazine had some sort of award for engineering slot machine sub-assemblies (the coveted Sub-Ass Award?) I would nominate THIS. - **STM**



Legend			
1	Bezel	2	Lens
3	Body	4	Cover



Assembly Order for Push Button

Push Button Parts

Replace Push button LED

Step Description

1. Position the lens inside the bezel.
2. From the top of the button panel, fit the bezel and lens through the hole.
3. Gently press the body into the bezel until the four tangs clip into place securing the bezel, lens, and body together.
4. Place the cover over the body and then secure to the button panel with two screws.
5. Connect the harness to the bush button.



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WMS Bluebird “Door Open D”

After replacing an Ithaca 850 in a Bluebird, and when the game was finished booting up, a “door open D” appeared on the screen. This game was an upright game and did not have a switch on the drop door, so how could it show open? Some games have an extra switch that could be used to place on the drop door that is located near the bottom of the game. Not only have I seen this on some Bluebirds, but also some Aristocrat games. I located the cherry switch, pushed it in to have an OPEN status, then pulled it out to show CLOSED. When I looked at the screen, the “door open D” was gone and the game was ready to be played.

Quick Simple Repairs # 70

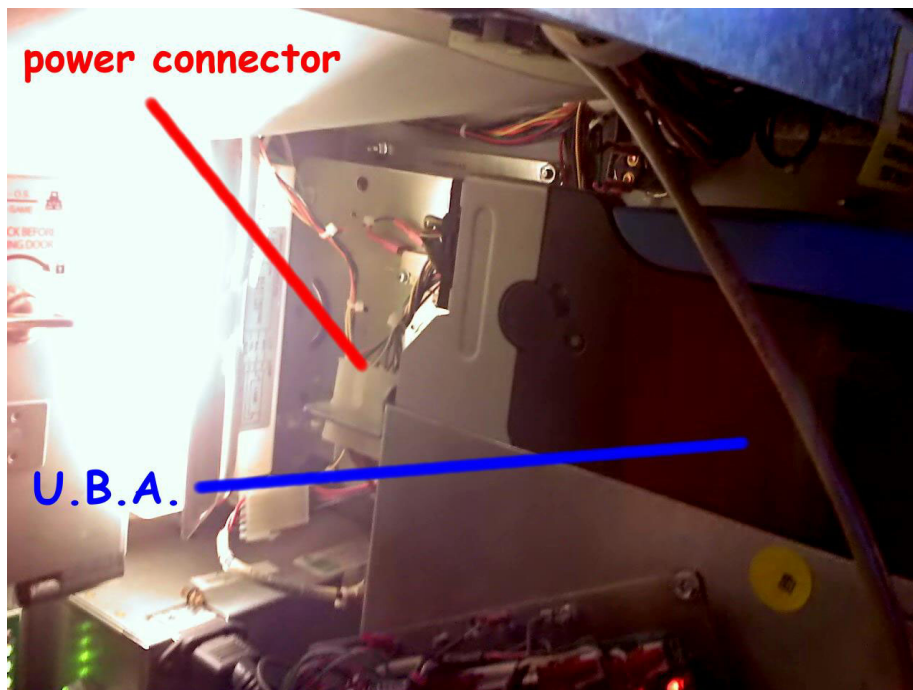
By Pat Porath

Bally 6000 Slant Top

The problem I just mentioned reminded me of a Bally 6000 slant top that I recently had a problem with. If I remember correctly an error code 54 wouldn't clear. As I later found, the drop door actually did have a cherry switch on it and the lock paddle was a little loose. This caused the switch to show OPEN and give the error code. After the lock was tightened, the error cleared and the game was ready for play.

WMS Bluebird-UBA No Power

A call was received that a machine had a bill acceptor problem. I reseated the UBS but I didn't hear the unit “cycle.” As I looked closer, there weren't any lights that were lit in the front of the bill acceptor. I reseated it again but the same thing happened, no power. Pins were checked inside of the UBA connector and they looked OK. Next, the cable running to the unit was looked at. Somehow,



the Molex connector had become loose. It is located directly behind the UBA on an upright Bluebird. Power was turned off and I plugged in the connector all the way, then turned the game back on. Right away I had lights on the bill acceptor that indicated power, and it “cycled” correctly. It was simply a case of a loose power connector. On a WBA when facing the front, take a look on the right hand side and look for two small red lights. This will indicate whether the unit has power or not. No lights, no power.

Bluebird and Bluebird 2 - Main Door Switch Upgrade Kit

We have had a few main door switch problems with upright Bluebirds and Bluebird 2s. We have also had a few belly door switch problems too, and I’ll get to that. I recently read that WMS has an “upgrade kit” available for the main door switch on the Bluebird and Bluebird 2. Games made after March 31st on this year already had the kit installed. Games made prior to March 2010 may need to have the kit installed. The kit part number is KIT-027544-00-00. Slot attendants receive calls from the surveillance department if a game has numerous “illegal doors.” Illegal doors means that the slot door is showing an open status without an employee nearby and their

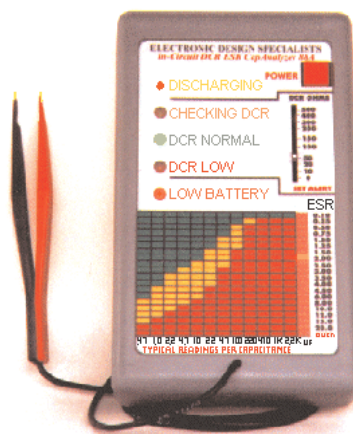
card in the game. Sometimes surveillance or a slot attendant will call a tech if a game keeps coming up with a lot of false door opens. 99.5% of the time the game is still locked and secure; it is only a switch or switch mechanism problem. The upgrade kit available will do the trick for main door switches.

What about a belly door switch problem on an upright Bluebird? In the past I’ve written to tighten the small studs located on the main door so the belly door latches better. After time it seems the small studs (that doesn’t sound good...how about...) the small door pins (lol) become loose and the latch has a bit of play which in turn may trip the belly door switch to cause an OPEN status. Instead of tightening the pins, remove

them and apply “LOC-TITE” on the treads, then put the pins back in. This procedure will prevent them from coming loose. (Wish I could take credit for the idea, but it goes to WMS gaming.) At the casino that I work at, “LOC-TITE” is also put on the 7/16 nut (small nut) on some of the locks. This prevents them from coming loose.

We recently installed 10 “Bluebird XD” games. It took a little time to figure out how to install the main door lock on the first game. “LOC-TITE” was put on the locks to prevent them from coming loose too. It could also be used on drop door locks (for slots that still use coin, we only have three coin games out of around 1407.) LOC-TITE Blue 242 Threadlocker is the one that we use.

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IGT AVP and or Trimline “Temperature Error”

As a reminder, when IGT games that have a “brainbox” installed such as an AVP and or Trimline, and they have “temperature out of range” or if the game is rebooting itself, the first thing to look at is the cooling fan on the video card and the air filter. I’ve seen quite a few of the fans simply die. What if the game has a good fan AND the air filter appears clean, and it still has issues? On some IGTs they use two metal screens to filter out debris before it gets to the filter. If the game has problems and both the internal and external fans are working, along with a clean air filter, check to see if the screens are obstructed. If they are full of dust, it will restrict airflow and raise the temperature of the brainbox. Too much heat and it will not function properly. The inner metal screen may be removed from the game so more airflow can reach the brainbox. The part number of the screen, also known as a grill, is 13014402W. From what I read, IGT recommends to clean the brainbox air filters every 90 days. Periodic maintenance of the screen and filter will help the game to be “COOL.”

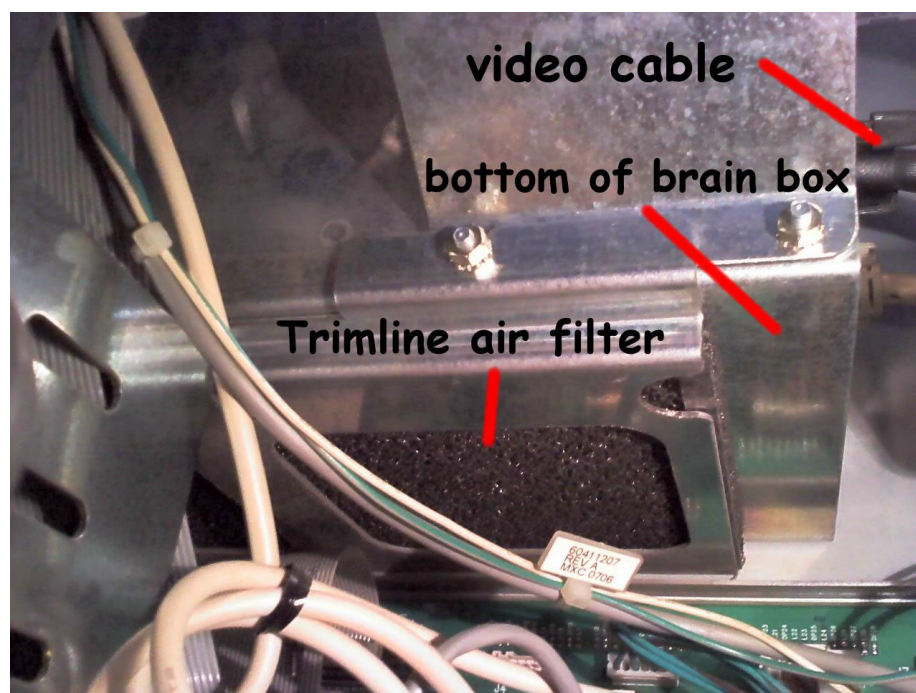
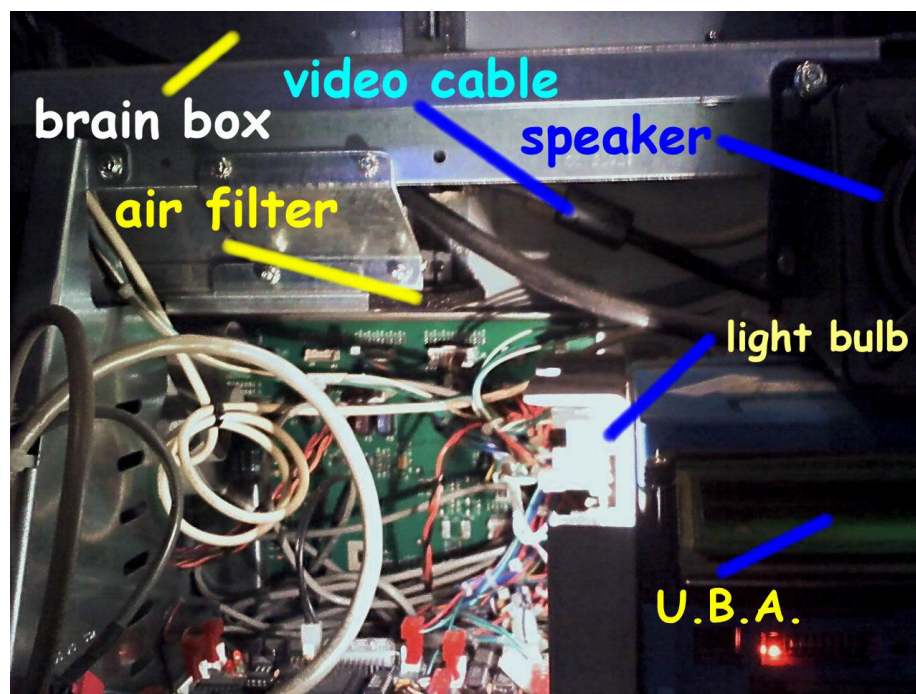
IGT Video Slant Top Power Problem

To me, the problem looked like a main power supply

problem. It looked like the main incoming 110vac line went to the power supply, then to a distribution area, and to the rest of the game. I was wrong, it sure did not work that way. With the power switch turned in the ON position all I had was “no signal” on both the upper and lower LCDs, and auxiliary power for the Oasis Sentinal. That was

about it. To the upper right hand side of the power supply I had two LEDs that indicated power too. Everything else, such as the game interior light, the bill acceptor door light, and the brain box lights were all dead.

A co-worker also came up with the conclusion that the power supply was bad.



We didn't have any spares so three were ordered. After we received them I grabbed one and installed it. (Pretty easy to install, only a handful of connectors along with one Phillips type screw.) Power was turned on and the same darn thing happened as it did with the original unit: a power problem.

Now what? Was the replacement power supply bad or was there another issue that was going on? I know I should have but didn't at the time, I swapped power supplies with a known good one next door. Once again the power was turned ON and no juice.

Now it is NOT a bad power supply even though to me, everything pointed to it as if it were bad. To the upper right hand side it looks like a "power distribution" board that has some fuses on it, along with another board with some fuses on it near the brain box. All of the fuses were checked and all were good.

Next, I checked and rechecked connections. They looked good too. In the past, I've seen a change light that was shorted take down a game and not allow it to boot up. Also, I've seen a bad UBA take down a game. So, it was time to start disconnecting things. The ticket printer, bill acceptor, change light, bill door florescent light ballast, the lower LCD removed,

and the upper power supply for the upper LCD were all disconnected (along with the main power cord unplugged from the power supply). The main power cord was plugged back in and the switch was turned back on once again. STILL nothing, the same original problem was still there.

At this point I was running out of ideas and fast. One of the few things that wasn't looked at or disconnected was the brain box. It was reseated and I didn't notice anything wrong. This time I took it completely out of the game to look it over. After it was fully removed from the game, I saw that the power connector was half pushed in on one side. The cover was taken off and it was snapped back into place. Once the brainbox repaired and put back into the game, the power switch was turned on AGAIN. Presto! The game had life in it again and I had a heartbeat! Even with quite a few items disconnected, I still had lights that lit up on the brainbox and I could hear the cooling fans spinning, which I did not have before. Power was turned off and the main power cord was removed from the power supply and all the items that had been discon-

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nected, I reconnected. Now for last time (maybe) power was turned back on. Everything looked beautiful. The game booted up awesome and looked great. Finally the game was back online.

IGT “i-Game Door Open M”

We needed a part number for an armrest on an IGT slant top i-Game. I looked online without much success. As I later found out, the armrest is technically called a bolster (the fancy name for it, I guess). That could be why my search on IGT.com didn't work out so well. I was looking for “armrest” not “bolster.” If some of the armrests on the floor are looking a bit worn, the IGT part number is 62567200W. These are physically different than the S plus and S2000 ones.

I had to take the armrest off the game to get the part number, and when I put it back on there was a door open M that wouldn't clear. How many switches and or optics on an i-game could cause a door open M? The answer is six. Number one is the top door, number two would be the hopper door, three would be the bill acceptor access door, number four is the main door optic, five would be the main door cherry switch, and number six would be the cherry switch under the “coin in blocking plate.” The plate, where the coin-in assembly used to be,

needed to be removed to get access to the rest of the armrest nuts. The top door appeared to be secure, and the bill acceptor door switch was tested and worked OK. Next, the main door optic was taken off so it could manually be aligned to the receive side of the optic, and both the main door and hopper door cherry switches were pulled in an upward position so they would show a “closed state.” I STILL had a door open M. Then I remembered the switch that was under the blocking plate. After it was removed, the switch was in an OPEN position. It must have gotten bumped or something, so it was pulled upward to be in the CLOSED position. All of the doors (hopper, bill acceptor, and main doors) were closed once again and finally the door open M cleared.

- Pat Porath
pporath@slot-techs.com

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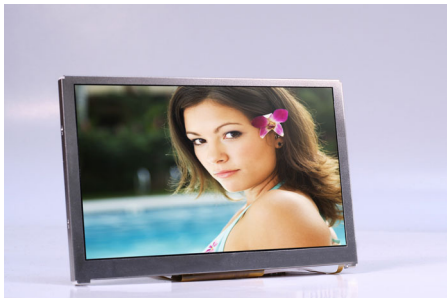
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PALATINE, IL – Lumex announces the global launch of their InfoVue TFT (Thin Film Transistor) family of full color graphic display technology. InfoVue TFT LCDs **come in both touch screen and standard formats** and feature an **extended temperature range, LED backlighting for high contrast, and a thin profile starting at an industry-leading 3mm**. InfoVue TFT technology comes with complimentary integration support from Lumex's team of Technical Design Specialists.

Compatible with standard LCD drivers, InfoVue TFT technology is ideal for application within slot machines.

InfoVue TFT LCDs provide an extended temperature range. Whereas standard TFT LCDs operate from 0°C to 60°C, the InfoVue TFT LCD can operate effectively at temperatures up to 70°C, making the technology an ideal fit for applications that require consistent performance in extended hot environments such as slot machines.

Slot Tech Product Feature

NEW INFOVUE TOUCHSCREEN TFT LCDs FROM LUMEX FEATURE EXTENDED TEMPERATURE RANGE, THIN PROFILE AND LED BACKLIGHT

New TFT LCD comes with industry-leading, complimentary product integration support

InfoVue TFT LCDs use LED backlights which further increase the contrast. This method allows for much richer colors and darker blacks than available with alternative technologies such as CCFLs (compact fluorescent lamps). Whereas CCFL can offer a contrast of 150:1, an LED backlight allows for a contrast of 500:1.

"Lumex is launching its InfoVue TFT technology with complimentary product integration support that is unparalleled in the industry," explained Brian Coates, Technical Sales Manager at Lumex. "Lumex Technical Design Specialists can integrate the TFT technology with touch screens, switches, connectors, cables covers, custom daughter boards and other key components to create solutions that maximize performance and efficiency in each individual application."

This complimentary integration support generates cost savings, speeds time to market and reduces opportunity for product failure due to integration issues

The RoHs compliant InfoVue TFT LCDs are available in standard and

touch-screen formats in 3.5", 4.3", 5.7" and 7.0" diagonal screen sizes. **The resistive type touch-screens operate in a 4 bit parallel interface and operate well over the entire operating temperature range of the display.**

Pricing is approximately \$30 to \$150 per unit in production quantities dependent on size and quantity ordered. Touch screen TFTs are available in stock from Lumex's strategic distribution partners immediately. Standard lead time for non-touch screen technologies is approximately seventeen weeks.

Lumex Contact Information

For additional information or engineering assistance:
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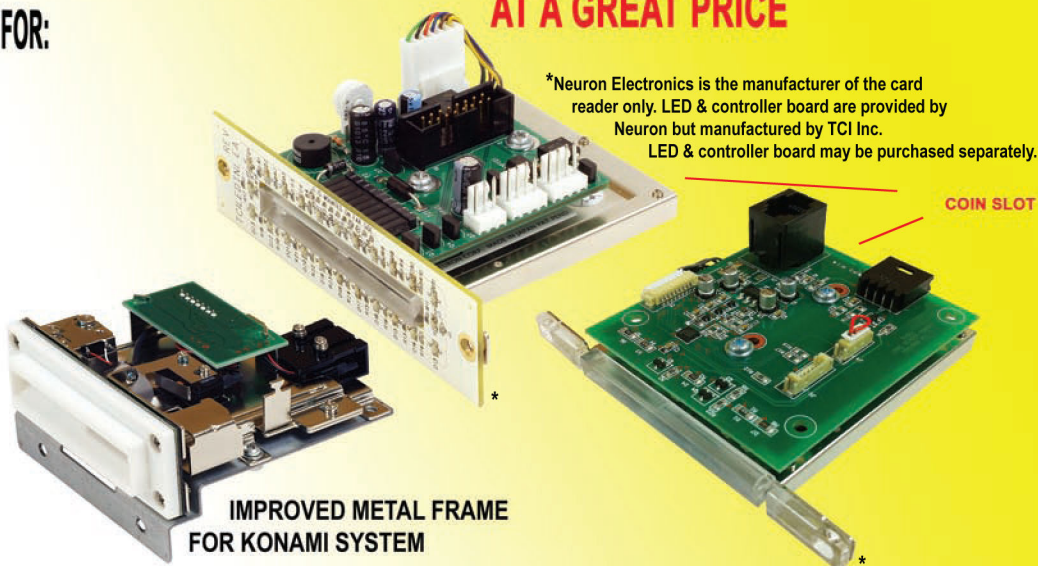
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Nice Place to Work, Huh?

So, I received this subscription request from Casino Potoroz, in Slovenia. According to the Internets “ In a villa on the hill of St. Lowrence the first spin of the Wheel of Fortune was made in the distant year of 1913. The Grand Casino Portoro• has the oldest gambling tradition in Slovenia. With its unique night life atmosphere, it gives the Slovenian coast a special charm.”



Um, OK. So where the heck is Slovenia? It's in central Europe and it borders the Adriatic Sea to the southwest, which is where this beautiful property is located, right on the coast! I asked Boris to send a few snapshots of his casino along with a photograph of their technical staff. - **STM**



Rinaldo, Boris, Arlet, Elvis and Gregor

Advantech-Innocode's DPX-S415, DPX-S425

Advantech-Innocode announces the European launch of two phenomenal new boards at the ICE 2011 tradeshow in London. Two new products add a new dimension to the highly successful and versatile DPX S Series range. The models offer existing customers a springboard to easily move to newer, higher performance technology (being backwards compatible with the existing DPX-S410). For new customers, the new products provide a leading edge platform on which to base their new products.

Utilizing the very latest computer technology from Intel and AMD, the highly integrated single board computers allow game designers to transform their electronic game machines with dazzling multimedia and powerful computing power.

High performance graphics engines are included that offer 3D acceleration and multi-monitor support and dual core 64-bit CPUs allow optimal use of the latest 64 bit operating systems and system RAM up to 8GB.

- The DPX-S415 is an AMD platform platform platform platform sporting ATI Radeon HD4270 graphics which is a DirectX 10.1 engine for awesome graphics performance, stunning 3D visual effects and dynamic interactivity. The platform include's AMD's latest HyperTransport™ technology 3.0 to boost system performance and supports the latest Athlon II Neo and Turion™ II Neo dual-core processors II.

- The DPX-S425 is an Intel platform platform based on Intel's latest 32nm technology and including state of the art fea-

January 2011

tures such as Intel Turbo Boost and Hyper threading Technology to enable 4-way multitask processing and automatic over-clocking to handle CPU demand. The integrated Intel HD Graphics provides superb visual performance for sharper images, richer color, and life-like video and audio. The CPUs supported are the state of the art Intel Core™ i-5 and Core™ i-7 with Integrated Memory Controller that provide stunning performance.

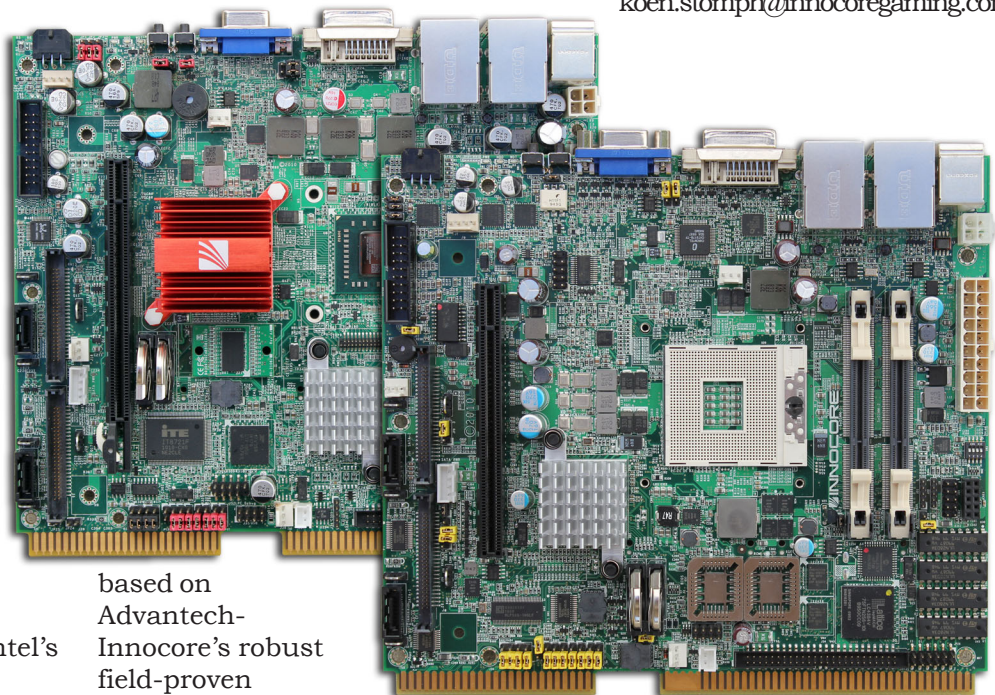
Both products also include a full bandwidth PCI-Express v2.0 x16 graphics expansion slot that can be used to boost graphics performance further or to add third or fourth monitors. Innocode offers a growing range of medium and long production life graphics cards for use with the new products.

Although the new products provide a great step up in computing power, they also include a full feature set of gaming I/O, COMS and security hardware. The core gaming hardware is

is deployed in tens of thousands of gaming machines worldwide and approved by regulatory bodies for all major markets. This speeds the customers' time to market as well as giving them the confidence that the platform will be reliable and meet the long term requirements for their next generation games. The products are also backed by Innocode's usual guarantee of 5 years of mass production life.

"We take great care to plan our products roadmap and time product releases to maximize performance and lifecycle. The new DPX S Series products provide a quantum leap in performance over our existing products and anything available from other suppliers. Through Innocode's close strategic alliances with chipset and CPU manufacturers we are able to be the first out of the gate with these significant new products" said Koen Stomph, Advantech-Innocode's Sales Director.

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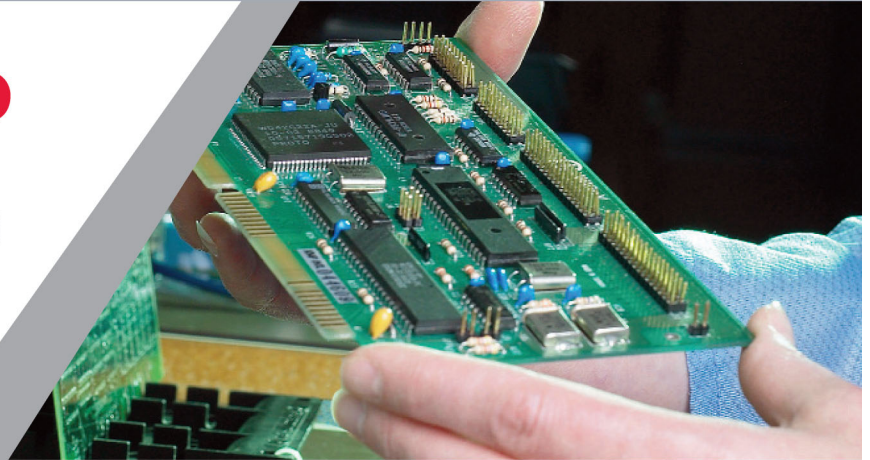
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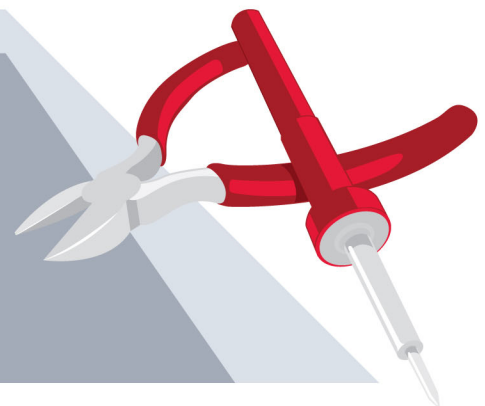
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