

June 2006

SLOT TECH MAGAZINE

Slot Machine Technology for the International Gaming Industry

Mastercom 250
TechFest 13 Review
Control Panel Isolation
Get To Know An Atronic Technician
Five Elements for the Implementation
of a Successful Slot Technical Department

Slot Tech Magazine

Casinos in the Comfort Zone with
Gary Platt Seating

\$10.00

How many \$\$ does it take to change a light bulb?

If you're still using fluorescent tube sets in your slots, you're spending too much...for maintenance to change them, for energy to light them, and for air conditioning to cool them off.

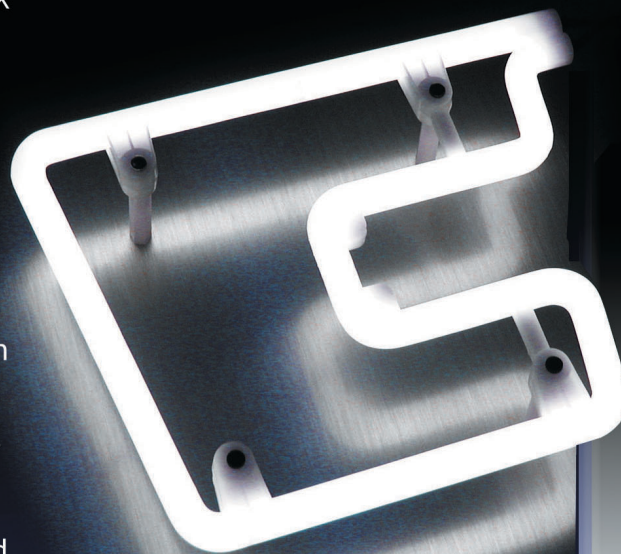
The cool new answer is the trapezium-shaped Cold Cathode (CCFL) lamp from Coin Mechanisms. One size fits nearly all applications—belly panel, square or round top box, universal toppers—and mounts easily with Panduit® stand-offs.

CCFL delivers an exceptionally bright white light that will really make those hot machine graphics POP! But while the look is hot, the lamp is not. And, since the CCFL produces no UV light, those hot graphics stay crisp and sharp.

Cold cathode burns cool, using almost 50% less energy than fluorescent tubes. More current is converted to light and NOT heat, so CCFL won't strain air conditioning loads and it won't heat-damage other internal electronics.

Even better, CCFL burns lo-o-ong—about 20,000 hours or ten times longer than a fluorescent. That's an average of 2.5 maintenance-free years. And with no electronic ballast, starter or harness to change out with the lamp, CCFL replacement delivers substantial life-of-the-system savings over the installed cost of fluorescents.

CCFL from Coin Mechanisms. It's one bright idea that can save you cold cash.



COIN MECHANISMS INC.

Toll Free 800.323.6498 in USA & Canada

Website: www.coinmech.com

Coin Mech. It's Your Choice.

June 2006

Page 4 - Editorial

Page 6 - Unlocking the Mysteries of the Mastercom 250

Page 14 - Quick Simple Repairs #14

Page 16 - Five Elements for the Implementation of a Successful Slot Technical Department

Page 19 - Using Optoisolators for Control Panel Isolation

Page 26 - Get To Know An Atronic Technician - Part II: Gulf Coast

Page 32 - TechFest 13 Review - Record-Setting Event Draws 88 to Mystic Lake Casino

Page 34 - Casinos in the Comfort Zone with Gary Platt Seating

Page 36 - Coin Mechanisms Inc. Releases the Model MK 2 Universal Topper Sign

Page 38 - Subscriptions and Order Form



On the cover:
Seating by Gary Platt Manufacturing
Model: Sierra Royale series
Location is the Atlantis Casino in Reno, Nevada



Slot Tech Magazine is an
official publication of the
Global Gaming Expo

Slot Tech Editorial

TechFest 13 has just concluded and I really think it was our best gathering ever, not just for the record-setting attendance of 88 slot techs from 27 different properties but also for the tremendous amount of technical information that attendees were able to gather at the event and take home with them. Everyone was really loaded up with catalogs, service manuals, schematic diagrams, CD-ROMS, hats, T-shirts, pocket screwdrivers, flashlights and pocket protectors than ever. I suspect some folks were a bit overweight on their

luggage going home. There must have been twenty pounds of stuff!

One of the highlights of this TechFest was Sencore's presentation on LCD repair. Sencore's Don Multerer presented a hands-on "mini school" within TechFest. With four full sets of Sencore test equipment, 12 lucky attendees each day spent an entire afternoon with Don, learning how to repair LCD monitors and work with the gear. It was SRO, so we eventually had to install a row of chairs in the back of the room in order to accommodate the overflow.

Another highlight worth noting is that I was able to videotape the Ceronix presentation given by Paul Alexander. This has now been ripped to a podcast and is available, along with the handout, schematic diagrams and service manual, on the website. Visit the Slot Technical



Department at slot-tech.com to view the presentation. This is a free service. No membership is required.

It was a real pleasure to hook up with Slot Tech Magazine contributing writer Pat Porath at TechFest 13. This was Pat's first TechFest, although I had met him previously at his own casino (well, where he works, anyway). Likewise, I had a chance to meet Ted Befus and hand him his first paycheck for his recent contributions to the magazine. Thanks Ted.

You know, I'm always looking for new contributors and I have one this month in Paul Cornish with his missive, "Five Elements for the Implementation of a Successful Slot Technical Department." If you have an idea for an article you'd like to write for the magazine (or see written by someone that actually knows what they're talking about) drop me a line or give me a call. It's always nice to hear from our readers.

See you at the Casino.

Randy Fromm

Randy Fromm's Slot Tech Magazine

Editor

Randy Fromm

Technical Writers

Ted Befus
Michael Brennan
Herschel W. Peeler
Pat Porath
John Wilson

International Contributor

Martin Dempsey

Advertising Manager

Dennis Sable

Slot Tech Magazine is published monthly by Slot Tech Magazine
1944 Falmouth Dr.
El Cajon, CA 92020-2827
tel.619.593.6131
fax.619.593.6132
e-mail

editor@slot-techs.com
Visit the website at slot-techs.com

SUBSCRIPTIONS

Domestic (USA)

1 year - \$60.00

2 years - \$120.00

International

1 year - \$120.00

2 years - \$240.00

Copyright 2006 under the Universal Copyright Convention. All rights reserved.



Slot Tech contributing writer Ted Befus receives his first paycheck (paycheque) from Slot Tech Magazine publisher Randy Fromm at TechFest 13. We welcome all submissions. See the website at slot-techs.com for writer's guidelines.

The **Gold Standard** in Gaming Printers



Preferred by
Casino Operators

More TITO printers than all other competitors combined

With more than 850,000 printers installed worldwide, FutureLogic is clearly the choice printer of operators



Praised by
Industry Experts

Only decorated TITO printers in the industry

Six industry awards in two years including Casino Journal's Platinum Award for "Most Innovative Gaming Technology Products, 2004"



Chosen by
Manufacturers

TITO printer chosen by OEMs across the globe

Preferred by over 35 manufacturers worldwide, when it comes to gaming printers, FutureLogic sets the standard



Supported by
World-Class Service

Service & Support unmatched in the industry

Reliable and responsive service located across the globe in Asia, Australia, Europe, North America, Russia, South America


FutureLogic
www.futurelogic-inc.com



The **Gold Standard** in Gaming Printers



Unlocking the Mysteries of the Mastercom 250

By Ted Befus

It's a dark time for Casino Regina; the Bally Mastercom 250 is running amok. Chaos is the order of the day."

Alright, it's not chaos. I'm just trying to establish mood, kinda like the prologue in Star Wars. Did it work? I didn't think so either.

"Unlocking the Mysteries of the Mastercom 250." You've got to be kidding right? Ok, how about this for an alternate title: Getting to Know Your Mastercom 250 or maybe The secrets of the Mastercom 250 Revealed.

There are no real secrets or mysteries but if you don't know how to utilize the debug features of your Mastercom GMU, there may as well be. I haven't been working with SDS for too long but since we've had our Bally floor audit I've certainly become more proficient and I'd like to share my notes with you.

It sure is nice to have the debug features available on the GMU at your disposal. There are several meters to read and each meter has a corresponding type of problem to look for.

You might be asking "When do we know when to use the debug meters?" There are a few times when these meters will be helpful.

We were having a problem where machines were behaving strangely. We were having problems with games not accepting player's club cards. We'd come along with our tech cards and the games would be fine; no problems were found. Customers kept complaining so we checked the debug meters and found that the games they were complaining about were behaving quite badly (for the solution you'll have to wait for part #2 of this article).

The other time is when we run our morning reports and find specific problems. The most useful report we run every morning has to be the GMU exception code count

report. It gives us a breakdown of each hour's activity based on exception codes, periodic reports and duplicate exception codes. Pay particular attention to the duplicate exception code count (I'll be speaking a little more on our results in part #2.)

For those of you who are unaware of what a duplicate code is, I'll elaborate. The GMU holds an exception code in its Tx/Rx Buffer until SDS polls the game for information. The GMU then sends up the code out of the buffer and waits for an acknowledgement. If SDS does not send an acknowledgement or the GMU does not receive it, the GMU will not clear this message out of its buffer. The next time the GMU is polled, it sends this message again. SDS recognizes the code and time stamp as the same as the previous code and logs it as a duplicate.

We're going to read these debug meters daily for the next three days to try to determine where our problem games are. Figure 1 is an example



Increase Your Financial Cushion

Sit back, relax and enjoy financial peace of mind as your casino pads its assets with our innovative performance seating. Engineered to maximize players' **Time On Device** and increase profits, our full line of X-Tended Play Seats® offer exclusive ergonomic features like built-in lumbar support, custom injection molded foam, plus rock-solid construction for ultra comfort and durability. For more information, **please call 800.969.0999 or visit www.garyplatt.com.**

GARY  PLATT

PERFORMANCE CASINO SEATING

Slots  Poker  Table Games

of the sheets we're going to use to do our audit. It contains all pertinent data regarding the game. It's the profile in our slot file.

There are also spots for other information regarding whether the game is a ticketing game, if the game has a card reader bezel and if the EPI is grounded. I had wondered about the significance of the card reader bezel. It was pointed out to me that the bezel is actually an anti-static bezel which will discharge static from cards, possibly saving damage to the reader. The EPI ground is important to make certain that the entire EPI panel is grounded against static.

Now back to the debug meters, since there is more than one type of code chip that the GMU can make use of, I'll cover the two most common: SAS and Simple Serial.

For SAS we run ECO1905 (soon to be replaced with ECO1953) and ECO 1882 (Simple Serial). There are some differences on what modes you use to gather your debug information, so we'll start with the ECO1905.

With ECO1905, the debug meters can be found in Mode 55. Before you can do anything with those meters though, they have to be cleared. To do this, you're going to insert your card and enter mode 55. At the mode 55 screen, you will be prompted with lots of other

options. You should choose option 10 to reset the meters. From there it will prompt for you to choose which meters to reset. If you choose option 10, the GMU will reset all debug meters. When complete, the EPI display should read "all 0'd" (all zeroed). You can reset just the debug meters if you choose option 2 instead of option 10.

To get started, we're going to go into Mode 1 and record the denom, address and GMU code information and confirm it either as correct or incorrect as compared to our paperwork. There is a section

on the audit form for notes in case something doesn't jive. The data you enter in mode 1 only needs to be recorded on day #1.

You may be wondering why we're doing this. It isn't debugging is it? Yes it is. If you have deficiencies between what is in your GMU and what's in the database, your games aren't going to report properly. It's very important that things are set up properly.

As an example, we recently converted several games to an IGT MD3 protocol. The

Slot Floor Audit Worksheet -- Casino Regina				
Base Data From Slot File:		Slot #:	7100	
Line Address:	11A-10	Stand:		Acctg. Denom: 1 ✓
Description:	PENGUIN PAYS ✓			GMU Denom: 1 ✓
Eeprom:	XR\$0882 ✓			Token Denom: 1
Tokenized?:	N	Ticket Printer?:	N	Floor Status: ON
				SDS Status: ON
Base GMU Stats:				
	Yes	No	220	250
Ticketing Game?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	GMU Type:	<input type="checkbox"/> <input type="checkbox"/>
Bezel Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	GMU Denom:	
Grounded?	<input type="checkbox"/>	<input type="checkbox"/>	ECO Level:	
Debug Meter Data: Clear Date: ___/___/___				
	Day 1	Day 2	Day 3	
Game to GMU Errors				
1-GameComLost (GmCMDn) -- 1	0	0		
2-GameSerialSequence (GMSeq) -- 2	5	9		13
3-GameSerialChecksum (GmCksm) -- 3	0	0		3
SDS to GMU Errors				
4-LineDowns (LnDwns) -- 4	0	0		1
5-NetChecksumError (NtCksm) -- 5	11480	22380		33,831
6-NetRepolls (NtRpol) -- 6	173	462		642
7-NetMaxRepolls (NtMxRp) -- 7	18	50		71
8-NetTxComQOverrun (NtTQOv) -- 8	0	0		
Comm Errors (SDS/GMU)				
29-DuartAErr (DrtAer) -- 29	0	2		6

NONSTOP TICKETING

Maximum play



Anyway you define it, the certified Epic 950™ thermal printer has earned its reputation as a winner in the gaming industry. Innovative features include:

EPIC PROMOTIONS

- Patented dual-port capability
- Tons of memory with 8MB RAM and 4MB Flash

EPIC PERFORMANCE

- Patented USB Device ID™
- HotSwap QDT™ (Quick Disconnect Technology)

EPIC UPGRADES

- Easily upgrades
- Simplify all upgrades and data/graphics downloads with imPort™

EPIC LANGUAGES

- Print your ticket in any language

Epic 950™



**Choose an Epic printer and
create your own winning story.**

Visit transact-tech.com or call 877.748.4222.

Epic Gaming and Lottery Printers by

TRANSACT

games now had the ability to report a multi-denom game in a denomination other than pennies (the older versions couldn't). When setting up the game, the accounting denom was set to 25 cents (the game's lowest denom enabled) but the GMU wasn't changed from one cent. As a result, the game was actually reporting 1/25th of its actual turnover to the system. This also meant that player cards were receiving 1/25th of the increment they should have received on those particular games.

Next, we're going to read all the meters that we find on the audit sheet. To access these meters, we are going to enter mode 55. From the mode 55 screen, we are going to select option 2 for debug meters. The debug meter screen will let you enter a specific meter for you to start with. Since meter 1 is our first meter, we will start there. To scroll through the meters, press the "ENT" key on the EPI, recording all the meters on the sheet as you go (meters 1-8). After meter 8 you can either continue to scroll until you arrive at meter 30 (if you were paying attention to the sheet you may have noticed that it shows meter 29, not meter 30) or you can press the "CLR" key to return to the previous screen and then select meter 30 from there. The reason that the sheet shows meter 29 is that the sheet is generic for the Simple Serial EPROM; the corresponding SAS meter is number 30.

There are a few differences between reading the meters on ECO1905 and ECO1882 (aside from meters 29 and 30). The biggest difference is that the 1882 does not use mode 55 for debug meters. For this we will use mode 58.

Again, the first thing we need to do is clear the debug meters again. This time, we're going to insert our card and enter Mode 58. From here we'll enter option number 91 to clear all our debug meters. When cleared, the display should read "Debugs 0'd"

On day 1 we're going to do the same things we did with the ECO1905. Mode 1 will still give us all the info we need to compare against. From there, we'll enter mode 58. The GMU will prompt us to select a meter. Again, we will start at meter 1, reading all the way to number 8. Remember, instead of number 30 we will read meter 29 just like the sheet says.

Now, you're probably wondering what all these meters mean, I did too until it was explained to me. Here's where we get to "unlock the mysteries of the Mastercom 250."

The Debug Meter Data is broken into three separate sections. Meters 1-3 deal with Game to GMU errors, meters 4-8 deal with SDS to GMU errors and meter 29/30 deals with SDS/GMU Comm errors.

Meter #1 – Game Comm Lost (GmCMDn) Counts the number of times that the GMU has lost communication with the Game. This meter increments regardless of all other input to the GMU. For example, if the game is powered down and enters a "Blackout" condition, this meter is still incremented.

Meter #2 – Game Serial Sequence (GMSeq) Counts specific comm errors between the game and GMU. This occurs when the GMU must ask the game to repeat a message or when SDS receives a message out of sequence. Messages out of sequence can be found on the MLIST far right hand column heading "MSG SQ." This should increment sequentially from 1 to 15.

Meter #3 – Game Serial Checksum (GmCksm) Counts specific comm errors between the game and GMU where the system has received an incorrectly formatted message from the GMU. That basically means that the checksum sent up by the game does not match the checksum calculated by the GMU.

Meter #4 – Line Downs (LnDwns) Counts the number of times that the GMU has lost communication with SDS.

Meter #5 – Net Checksum Errors (NtCksm) Counts the number of times messages are sent to SDS in an incorrect format. The checksum

Get With The Program

The AESI Partnership Program

AESI Provides The Best Products & Service The Gaming Industry Has Ever Seen...

SAVE MONEY WITH:

- Spare parts discounts
- Free direct exchange inventory of Bill Heads, Printers and Monitor PCBs
- Pick up and delivery service
- On site training
- Upgrade programs on printers, monitors, bill acceptors, and coin validators

- **PART SALES**
- **REPAIR SERVICE**
- **TECHNICAL SUPPORT**

FutureLogic
Innovative Engineering for OEM Applications
GEN 2™
THERMAL PRINTER

mei
CASHFLOW™
BILL ACCEPTOR

kortek
LCD's
INDUSTRIAL MONITORS

DigiTech Systems
Digital Interface by Touch
TOUCH SYSTEMS

STEREOGRAPHICS®
GLASSES FREE 3D

Microcoin®
QL COIN ACCEPTOR™

STARPOINT
REEL MECHANISMS

Service Coast To Coast
CALL CUSTOMER SERVICE TOLL FREE AT:
1 (866) 736-2374 (AESI)
www.gamingstuff.com

ADVANCED ELECTRONIC SYSTEMS INC.

Taking Care of Business

sent by the GMU to SDS does not match with the checksum calculated by SDS. This is usually associated with line noise.

Meter #6 – Net Repolls (NtRpol) Counts the number of times the GMU has re-transmitted information to obtain a system response.

Meter #7 – Net Max Repolls (NtMxRp) Counts the number of Max Repolls that the GMU sends to SDS for the appropriate response. After 5 Net Repolls (NtRpol) this meter is incremented by one. All information in the repoll is DISCARDED.

Meter #8 – Net Tx ComQ Overrun (NtTQOv) Counts the number of times that the GMU message memory is overrun. Every time the memory is overrun, the meter increments by one. This number directly relates to messages that are LOST by the GMU.

Meter 29/30 – DUART A errors (DrtAEr) Counts the number of errors encountered by the GMU DUART in data coming from SDS. This error is usually indicative of noisy or damaged slot lines.

Problems in meter #1 can be attributed to poor or loose connections between the GMU and EGM or incorrect machine setup.

Problems in meter #2 can sometimes be attributed to poor power from the GMU supply. Poor power or loss of

power will cause the GMU message sequence to be re-set.

Problems with meter #3 can usually be attributed to the machine sending “garbage” to the GMU. That usually means that the message received by the GMU was missing information or had too many or too few bytes of data than the GMU was expecting. The game sends a checksum up to the GMU but the GMU either cannot verify the checksum or the checksum is incorrect.

A lot of problems on meters 5 through 8 can be attributed to line noise.

Excessive problems on meter #30 can usually be attributed to defective GMUs.

That’s it for this month. Stay tuned for my compelling, Earth-shattering conclusion in the July 2006 issue of Slot Tech Magazine.

- Ted Befus
tbefus@slot-techs.com

ASSA[®] Desmo

SECURITY SOLUTIONS

REDUCE YOUR EXPOSURE FROM DAYS TO MERE SECONDS!

The ASSA[®] Desmo RC, a Quick Change Removable Core Lock, offers the Maximum Security Solution you have been searching for:

- Controlled Management Key allows lock to be changed in seconds
- Provides continuous protection against vulnerability of lost & stolen keys
- Dramatically reduced replacement time provides for significant ROI

The ASSA[®] Desmo RC lock features include:

- Patented Key Control
- Maximum Control of Key Duplication
- Extremely Durable Key & Lock

ABLOY SECURITY, INC.
800-367-4598 • www.abloyusa.com

An ASSA ABLOY Group company

ASSA ABLOY





Patriot Gaming has product solutions to fit every budget.

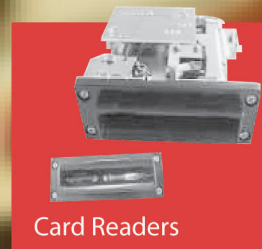
We focus on you the Customer. To provide the very best service and products to fit your ever changing needs. Our pride rests on the fact that we offer a wide variety of products and alternatives, lower cost solutions and top notch repair services.

One Call...One Voice... One Choice!

Call Patriot today for your FREE 2006 Catalog!



Coin Mechs



Card Readers



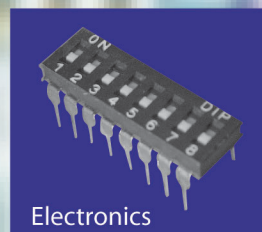
Buttons & Switches



Cleaning & Maintenance



Lighting



Electronics



Gaming Parts

Service Center

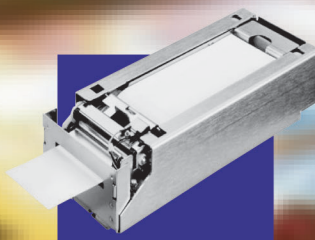
• All repairs have a 90 day warranty



Validator repair



Monitor repair



Printer repair



6331 Indianapolis Blvd • Hammond, Indiana 46320 • Toll Free: 1-866-367-5666 • Fax: 219-554-2935



Aristocrat MKVI

What an amazing slot machine this is. It has a JCM UBA bill acceptor and an LCD screen just for starters. No more large monitors to monkey with on them. It has very crisp, clear graphics too. One of the things that I noticed on the Mark 6 is that Aristocrat has implemented a separate communication board. The first problem that I ran into was indeed communication between the game and the CDS Sentinel. Game communication basically comes from the processor, to the COM board, then to the Sentinel. In this case, the problem was between the game and the Sentinel. I knew this simply because with my slot floor card inserted, the display didn't show an open AND closed door; it only showed closed. I could have also tested a bill and the meters wouldn't have incremented, which would also indicate a loss of communication.

On the COM board, it had an LED that would flash three times, stop and flash three times again. What was up with this? Is this some kind of "flash code?" It ended up I was correct. I had tried the

Quick Simple Repairs #14

By Pat Porath

usual things such as checking connections, reseating connections, rebooting the machine and rebooting the Sentinel board but nothing worked. The LED on the COM board would still flash three times and stop. I unplugged it and plugged it back in hot, and that more-or-less killed it completely. DO NOT mess with these boards while they are live. I learned the hard way.

Aristocrat COM board flash codes:

Flicker—10pps (pulses per second) = memory cleared

Flicker—5pps = normal operation

Flashes 1 then pause = no COM on J2 (EGM)

Flashes 2 then pause = no COM on J3 (AUX, Lottery, EZ-Pay, etc)

Flashes 3 then pause = no COM on J4 (system)

Flashes 4 then pause = RAM error

Flashes 5 then pause = invalid EGM SAS poll address

The pin out connectors:

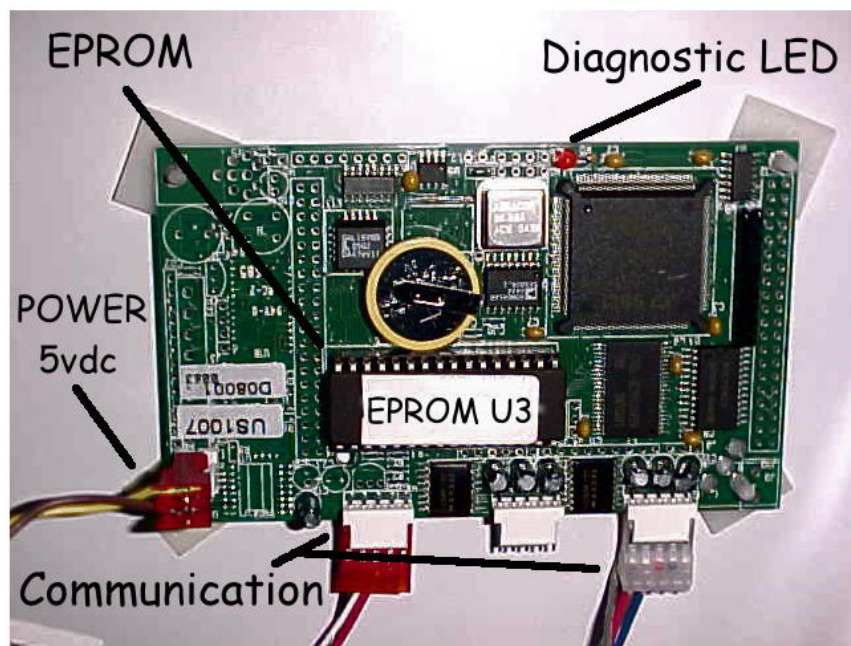
J2, J3, and J4, pin 2 is TXD (transmit) pin 3 is RXD (received) and pin 5 is GND (ground)

Connector J8, pin 1 is +5vdc, pin 2 is GND,

Connector J4, pin 1 n/c, pin 2 is TXD, pin 3 is RXD, pin 4 is n/c, pin 5 is GND

To clear a RAM error on the COM board:

1. Remove power
2. Jumper J2 pins 11 & 13
3. Apply power
4. Wait for LED to flicker fast (10pps)
5. Remove power
6. Remove jumper
7. Apply power
8. When complete, the normal LED flicker will be at 5pps.



At the point of “no LCD flash code” at all, it had to be replaced. The COM board was replaced and machine communication was established once again. When my slot floor card was inserted into the CDS card reader, it showed the main door “opened” and “closed” like it is supposed to. This is one quick way to see if there is communication between the game and the Sentinel. One quick and simple way to check for communication is to insert a “slot tech card” or some call it a “mechanic” card. Insert the card and press the “enter” button twice. The checksum will be displayed if there is communication from the Sentinel to the CDS system. A variety of letters and numbers will appear on the display. If there is no communication, it will display “com down” (no, not calm down) or “no COM” which indicates, of course, no communication between the Sentinel and the CDS system.

The Aristocrat MKVI uses an LCD monitor, which has the capability of displaying more than 16.7 million colors. This creates great looking graphics. The main processor has 24 times MORE program memory than the older games too. Since we installed the games, they have been running very well. To the best of my knowledge there have been only a few minor communication problems and a couple of bill acceptor problems. Our customers love the games and they run great.

- Pat Porath
pporath@slot-techs.com

Replacing Gaming Monitors Have You Frustrated?

On-site Training



Would you like to kick your monitor frustrations?

- Increased Inventory Costs
- Increased Freight Costs
- More Game Downtime
- Lost Game Revenue

Don't replace them...

Repair Them!

(Including LCD monitors)



SENCORE Will Show You How!

Purchase the above pictured setup and **we will come to your casino to train your technicians!**

Three day on-site class instructs:

- The operation of **SENCORE** instruments
- Proper operation and repair of Gaming monitors
- Hands-on LCD/CRT monitor troubleshooting class

SENCORE Will Save You Real \$!

A one-time investment in Sencore's instrument troubleshooting bench is guaranteed to pay for itself in 6 months* or less.

Call Don to see what it takes to kick your monitor frustrations!

*Just repair 8 monitors a month @ \$300 average

Las Vegas Training Dates

September 11 - 13, 2006 January 15 - 17, 2007

Call about on-site dates at YOUR casino!

SENCORE

www.sencore.com email:gaming@sencore.com 1.800.736.2673



One of the most often overlooked departments in many casino operations is the Slot Technical Department. To maximize revenue and ensure compliance, the Slot Technical Department must be organized and efficient in all aspects of the slot floor operation. To accomplish this, there are five elements which must be addressed during the setup of any Slot Technical Department. This is especially true for those opening a new facility, or those in new or relatively new jurisdictions.

The First Element: People

In new and emerging markets or anywhere there is a limited pool of qualified slot technicians, selecting individuals with an electronic or mechanical aptitude will help to ensure that the best candidates are chosen for the job. Additionally, when introducing new, untested technology to the slot floor, it is imperative that a significant number of technicians be

Five Elements for the Implementation of a Successful Slot Technical Department

By Paul Cornish

available to troubleshoot the issues that might arise from the implementation of this technology.

The Second Element: Training

Even with a large number of qualified technicians on staff, if those technicians are unfamiliar with the technology on the slot floor, they won't be prepared to ensure machine performance and compliance. Traditionally, slot manufacturers and secondary suppliers will work with an operation to facilitate various types of training. This training may be incorporated with machine purchases or set up for an additional cost. Often these costs may be deferred.

It is important to note that training must be provided on an ongoing basis. This is particularly critical in new and emerging jurisdictions. There are few things worse than having a broken machine on the floor with no one at the facility with the knowledge to repair it. As new technologies come to the market, companies must ensure that their Slot Technicians have the training to do their jobs properly and efficiently.

The Third Element: Infrastructure

In some casinos, the slot shop is the equivalent of a large closet, indicating that slots are not a priority. The property is relying on the other amenities offered, as opposed to maximizing slot floor revenue. A sizable slot shop is essential for the success of any organization trying to optimize efficiency and revenue. With a proper slot shop, technicians may prep and repair games off the gaming floor so as not to disturb guests.

Another integral part of the Slot Technical infrastructure which is often overlooked by casino designers is on-site storage for slot machines and related equipment. With revenue per square foot the primary consideration, slot storage is often relegated to the form of a semi truck trailer or an off-site warehouse. Any successful Slot Technical operation relies on adequate storage for bases, signs, machines and other associated equipment.

The Fourth Element: Parts

To open a facility without a sufficient supply of frequently used parts is a recipe for disaster, resulting in down games and lost revenue. Slot manufacturers typically provide a frequently used parts list for any machine purchased, along with



TOUCH Gaming

ClearTek™ II Capacitive

The New Generation for Touch Gaming

For almost two decades, 3M's MicroTouch™ ClearTek™ capacitive touch screens have been an integral part of your gaming machines. Now, meet ClearTek™ II, the “new generation” in capacitive touch screens from 3M.

“Better by Design”, ClearTek II capacitive expands on the current ClearTek technology's outstanding durability, high endurance, and resistance to surface contaminants, with more vibrant optics, enhanced glare control, and a flex circuit tail redesigned for outstanding reliability. This all adds up to a new standard in capacitive touch screens...ClearTek II.

Call **888-659-1080** or visit **www.3Mtouch.com/info/st06** for more information.

MicroTouch

3M *Innovation*

suggested order quantities for those parts, if requested. When setting up a new shop, it is also important to have proper cabinetry and work benches to increase the Slot Technician's efficiency. Part of this setup can also include a parts supply and tracking program. In the case of higher volume slot floors, a designated Parts Manager to oversee this program is recommended.

It is always challenging to have games down due to a delayed parts delivery or because parts have been sent out for repair. Any facility sending a substantial number of parts out for repair or waiting for delivery of electronic parts, may want to consider a dedicated electronic repair lab with a full time Electronic Technician. In order to assess this need, an objective analysis of the amount paid for electronic repairs and the amount of lost slot revenue versus the

salary of the technician and the purchase price of the electronic test equipment is necessary. In most cases, a new or emerging jurisdiction is better off having an electronic technician on staff.

The Fifth Element: Organization

Organization is key for the success of any Slot Technical Department. Parts must be clean, organized, and easy to find. An accurate inventory of EPROMs, conversions, signage and locks, as well as a dedicated area to store these supplies, is a must. Order should carry over to all aspects of the Slot Technical Department, including employee files, day-to-day planning of projects, and follow-through of technician-generated paperwork.

In this day of the ever-changing gaming market in the many different and varied jurisdictions, the role of the

Slot Technician is, and always will be, one of the most important roles for a successful casino operation. As new technologies continue to be introduced, the role of the Slot Technician will grow and change. However, what won't change is the ability of a properly trained and equipped technician to increase revenue and maximize performance for any casino operation.

Paul Cornish
Director of Slot Operations/
Technical

Paul Cornish has been in the Casino Industry for over 17 years and has held various positions from hard count, to cage cashier to slot technician. During his tenure as a slot technician he has been part of several casino openings and renovations which include Mandalay Bay in Las Vegas and Motor City Casino in Detroit.

HAPP®

NOW FEATURING



kortek

LCD UPGRADE
KITS FOR
IGT MACHINES



FutureLogic
Innovative Engineering for OEM Applications

THERMAL PRINTER
PARTS



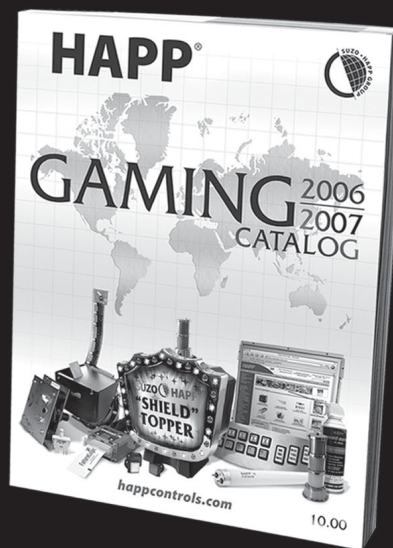
MicroTouch
3M

CLEARTEK™ "S"
TOUCH SCREENS

**YOUR LEADING SOURCE FOR
THE LATEST GAMING PRODUCTS**

Toll Free Phone: 888-BUY-HAPP Fax: 888-593-HAPP

GO ONLINE OR CALL TODAY
FOR OUR NEW FULL COLOR
GAMING CATALOG



happcontrols.com



In the world of slot machines, there is always the danger of an electrostatic discharge through the control panel. Here we have a place that is highly vulnerable to having a player walk across a dry carpeted floor on a winter's day, building up a high static charge, reaching over and touching a button, discharging himself/herself into the game circuitry. The circuitry of the CPU can be easily damaged by such an event. To protect the game we need to isolate the CPU's more sensitive circuits from the dirty world of the control panel. This is an excellent application for optoisolators.

When we press the switch we turn on the LED in ISO1. The signal is transferred from the LED to the Phototransistor, turning on the phototransistor, resulting in a High on the input of the Buffer U1. We would have seven other such circuits feeding into U1's other Ax inputs. A static discharge

Using Optoisolators for Control Panel Isolation

By Herschel Peeler

through the switch cannot pass through the optoisolator. At worst all we could do is make the light brighter, but the phototransistor will not put any higher input voltage to U1 than VCC. Diodes D1 and D2 protect ISO1. If the input goes any higher than VI, D1 forward biases and locks the voltage to VI. If the input goes lower than ground, D2 forward biases and locks the voltage to Ground. D1 and D2, in this application, are called Clamping Diodes. They

Clamp the voltage on the line to the limits at VI and Ground. When the CPU wants to know the condition of the control Panel Switches, it reads Buffer U1 by referencing an I/O address that selects the READ PP* pulse. READ PP* puts the conditions of the switches on the Data Bus. The CPU READ pulse brings the Data Bus into the CPU. Where the data ends up in the CPU depends on the instruction being executed. It could go into a register inside the CPU and later transferred to a place in RAM

Reflective photocouplers which can be used worldwide
TLP421, TLP421F

The TLP421 and TLP421F each consist of a phototransistor optically coupled to a gallium arsenide infrared-emitting diode inside a 4-pin DIP package. These photocouplers are characterized by a high isolation voltage.

- These products are Toshiba's first reflective photocouplers in DIP packages.
- The products are constructed from palladium plating, which does not contain any lead.
- The products are conformed to the following World safety standards (UL, TUV (VDE0884), BSI and SEMKO).

Features

- Collector-emitter voltage: 80 V
- Current transfer ratio: 50% (min)
For GB rank products: 100% (min)
- Isolation voltage: 5000 V rms (min)

External view of package

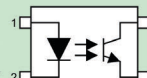


Applications

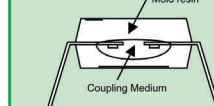
- Office equipment
- Household use equipment
- Solid-state relays
- Switching power supplies
- AC/DC - Input module
- Signal transmission between circuits of differing voltages

Pin assignment

- 1: Anode
- 2: Cathode
- 3: Emitter
- 4: Collector



Internal structure



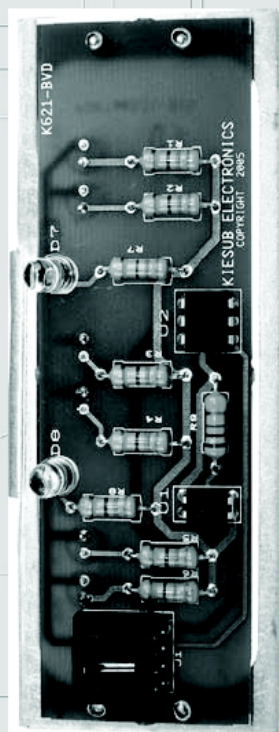


KIESUB

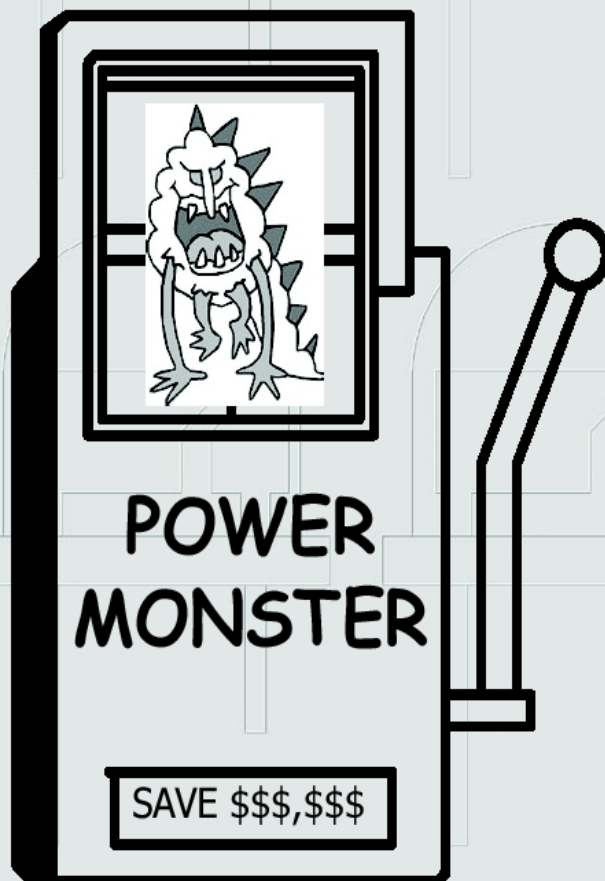
E L E C T R O N I C S

**Let KIESUB
help you**

**GET YOUR ENERGY
MONSTER UNDER
CONTROL**



Our LED panel
solutions
**Consume up
to 50% Less
Power!**



**Lower your energy cost by 50%
Save on labor for bulb changing
Reduce damaging heat problems
Improve the overall appearance**

3185 S. Highland Dr. #10 Las Vegas, NV 89109

Phone: 702-733-0024 Fax: 702-733-0026

www.kiesub.com

or it could go straight to an address in RAM. The CPU then compares this RAM contacts with a mask to tell which bits are set. If the CPU does not read the player panel switches, it cannot know that a button has been pressed. During POST (Power On Self Test) it usually does no good to press player panel buttons. The CPU is not reading them and pressing them has no effect.

The opposite process is used when turning on Control Panel Lamps. Somewhere in RAM we have an address whose contents represent the state of these lamps. The CPU reads this address of RAM and sends it out to the 8-bit latch U2. A Low going out turns on the LED inside ISO2, which turns on the phototransistor, feeding a High into the ULN2803. This gives a Low output capable of driving up to 28 Volts at 500 mA, and our lamp turns on. The writing process requires the CPU to reference an I/O Address that generates the WRITE PP* signal while placing the data on the Data Bus. At the end of the WRITE PP* pulse, it goes High. This Low to High edge latches the data into U2, where it stays latched until changed.

Many circuits include a Warm-Up resistor such as shown as R6. Turning on a lamp when it is cold results in a high surge current through the lamp. If we pull a small current through the lamp to keep the filament warm but below the stage of

emitting visible light, we give out lamps a longer life with less stress on them.

Here the optoisolator plays a slightly different role. Yes, we are protected from the static discharge but more likely, we protect the expensive and sensitive CPU circuitry from other damage. Lamps can short out. Wire harnesses can be connected wrong. One side of the lamp goes to a positive voltage capable of high current. One side of each of the Control Panel switches is connected to ground. If wires are incorrectly connected, it is possible to connect a straight short between power and ground resulting in a melted Control Panel harness. Among other possibilities, we could damage the circuitry of

the board that drives the lamps, U3 in this case. As U3 shorts out it, could also damage the circuitry that is connected to it. In this case, the damage cannot go back any further than ISO2. We can pull all the current we want through ISO 2. It cannot feed back into the more sensitive and expensive circuitry of the CPU itself. Damage is limited to parts that have low cost and are easy to troubleshoot.

The circuit shown represents no specific game but includes features found in many different games. This is similar to what you would find in many games.

The data sheet is on page 24.

- Herschel Peeler
hpeeler@slot-techs.com

CHIP QUIK® SMD REMOVAL KIT



REMOVE ALL SMDs
SAFELY & EASILY
WITH A SOLDER IRON

LOW TEMPERATURE •
NO EXPENSIVE TIPS OR
NOZZLES • NO DAMAGE

THE REWORK SOLUTION

• **ANNOUNCEMENT** •

**Chip Quik® is Now Available
Direct From Manufacturer To You**

• **WORLDWIDE** •

Visit Our New On-Line Store
www.chipquik.com/store

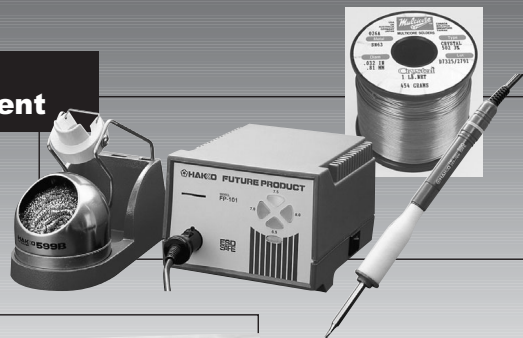
Tel. 508-477-2264 Fax 508-477-2982

For All Your Slot Repair Needs!

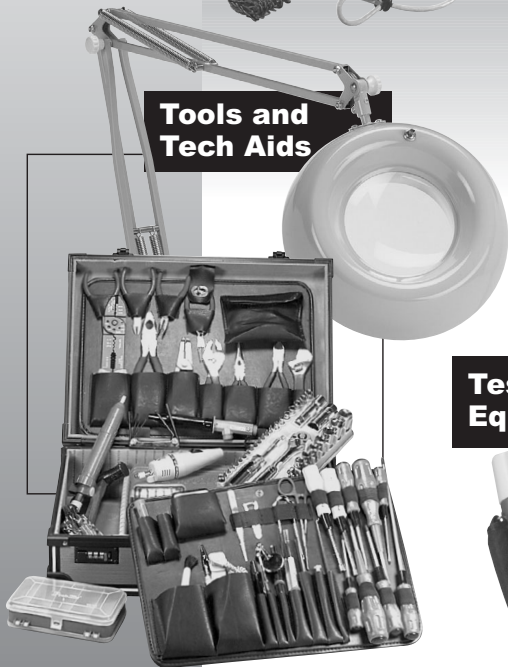


**Touch International
Capacitive
Touchscreens**

**Solder
Equipment**



**Tools and
Tech Aids**



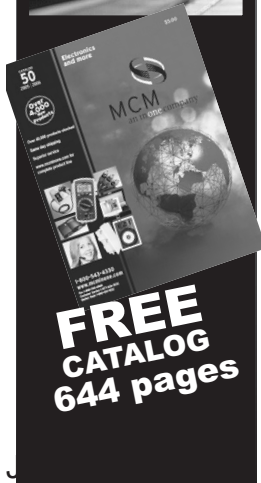
Cleaning Products



**Test
Equipment**



**LED Replacement
Bulbs and Assemblies**



Visit
www.mcminone.com/gaming

or call toll free
1-800-543-4330

- ✓ Over 40,000 products stocked
- ✓ Access to over 1.5 million electronic parts and related products
- ✓ Quotation Team, send us your quotes for quick response
- ✓ Gaming products:
Replacement Kortek monitors,
touchscreens and LEDs



MCM
an in one company

Source Code ST38 lot Tech Magazine

H11AA814 Series, H11A617 Series, H11A817 Series 4-Pin Phototransistor Optocouplers

Features

- AC input response (H11AA814 only)
- Compatible to Pb-free IR reflow soldering
- Compact 4-pin dual in-line package
- Current transfer ratio in selected groups:

H11AA814:	20-300%	H11A817:	50-600%
H11AA814A:	50-150%	H11A817A:	80-160%
H11A617A:	40%-80%	H11A817B:	130-260%
H11A617B:	63%-125%	H11A817C:	200-400%
H11A617C:	100%-200%	H11A817D:	300-600%
H11A617D:	160%-320%		
- C-UL, UL and VDE approved
- High input-output isolation voltage of 5000Vrms
- Minimum BV_{CEO} of 70V guaranteed

Applications

- H11AA814 Series
- AC line monitor
 - Unknown polarity DC sensor
 - Telephone line interface

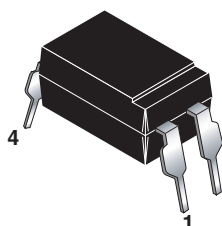
H11A617 and H11A817 Series

- Power supply regulators
- Digital logic inputs
- Microprocessor inputs

Description

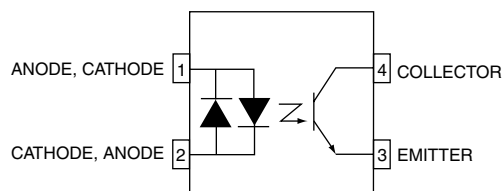
The H11AA814 consists of two gallium arsenide infrared emitting diodes, connected in inverse parallel, driving a silicon phototransistor output in a 4-pin dual in-line package. The H11A617/817 Series consists of a gallium arsenide infrared emitting diode driving a silicon phototransistor in a 4-pin dual in-line package.

Package

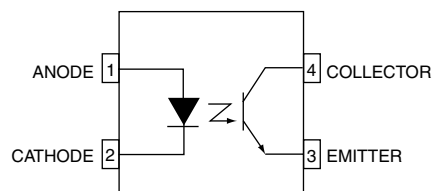


Schematics

H11AA814



H11A617 & H11A817



Welcome to the Center of Your Universe.



November 14-16, 2006 | Las Vegas Convention Center
November 13, 2006 | G2E Training & Development Institute

You can't compete in gaming today with yesterday's game plan. So welcome—to the new, the dynamic, the thoroughly reinvented Global Gaming Expo (G2E). We haven't just re-thought G2E, we've remade it in your image—with new dates, new products, new speakers, new content and new ways to compete on a global scale.

Go to www.globalgamingexpo.com/AD for more information and register by October 31 to enjoy special discounts to the Show and Conference. Special Hotel & Travel Deals are also available online. Questions? Call 1-888-314-1378 or 1-203-840-5626. To Exhibit, call 1-203-840-5341.

It's the world of gaming. Right where you need it.

global ^{G2E}
gaming
expo

F&B
A CULINARY
MARKETPLACE | AT G2E



An American Gaming Association Event

Organized by

 Reed Exhibitions

Get To Know An Atronic Technician Part II: Gulf Coast

By Michael Brennan



Photo Illustration © Slot Tech Magazine



individuals tied to the industry have managed and coped.

The following story is from the perspective of one such industry employee, Chris Cormier, an Atronic technician for the past three and a half years. Chris was one of three Atronic technicians working out of the Gulf Coast when Katrina hit. These technicians worked out of an office in Gulfport, Mississippi, complete with a real nice showroom, trucks, the whole lot. It's all gone now.

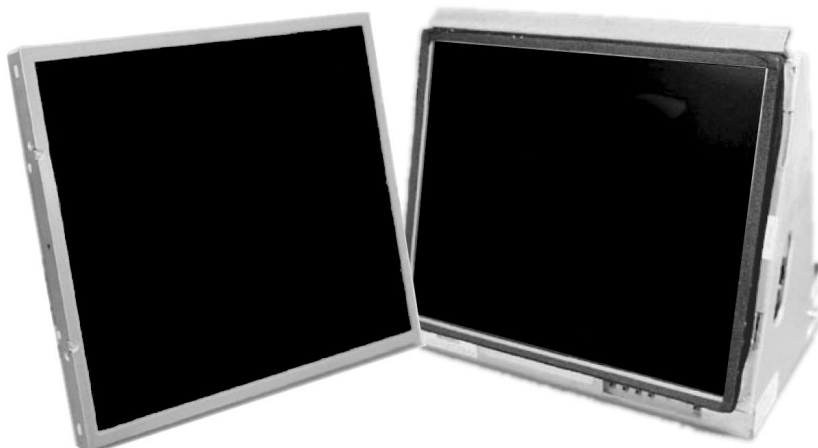
What follows is an in-the-trenches account of what it was like as a slot technician during and after Katrina. These are some of the memories and thoughts Chris related to me during a recent interview.

Hurricane Katrina was at the forefront of our consciousness for many months after the tragedy and will be revisited in the media soon as the one-year anniversary approaches in August. In the meantime, during this "coverage lull," the people and businesses on the Gulf Coast have had to move on.

Of course this is true with the gaming industry. You've probably seen the pictures of obliterated casino barges. The entire industry was shut down for a while. But things are coming back around, and



Are LCD display problems driving up your costs?



Save money and get faster delivery by repairing, not discarding, problem LCD panels.

Don't throw away those defective LCD panels! Now you can repair and recycle the panels, saving 50% or more in future panel replacement costs.

Specializing in electronic displays since 1994, HVT provides fast, exceptionally high-yield LCD repair and recycling services that can keep your inventory of replacement LCD panels fully stocked—at a fraction of the cost of purchasing new LCD panels.

Has the manufacturer stopped supporting your LCD panel or requested that you commit to a huge final buy? No problem. HVT supports a long list of products, even older models.

Many, but not all, LCD panel defects or damage can be repaired.

DEFECT	REPAIRABLE
Dim display or no display	YES
Uneven brightness	YES
Lines or blocks on screen	YES
Scratched display	YES

Over 50,000 LCD panels repaired

Call HVT today to learn more about the cost savings, reliability and convenience of LCD panel repair.

For information, contact Bill Whiteman, at bwhiteman@hvt.net or phone 630-540-2721 (office), 630-476-1008 (cell).

Hong Video Technology, Inc.
3150 Clinton Court
Norcross, GA 30071
Tel: 770-495-4881

Copyright © 2006 Hong Video Technology, Inc.

Hong Video Technology, Inc.
Servicing Display Products Since 1994



The Office

Standing at 421 16th Street, our office housed five Atronic employees, contained two thousand square feet of office space, and had a warehouse of eight thousand square feet. The building contained 46 total Atronic slot machines.

When we heard about the impending hurricane, we prepped the building, boarding windows and securing items. We really battened down the hatches. We were planning on staying in the area and riding out the storm. We changed our minds when we heard the storm was a category five hurricane. In hindsight, we shouldn't have left our personal and company vehicles.

Get Smashed

When we returned, everything was gone. Entire trees were scattered like matchsticks and there was debris everywhere. Walls were completely ripped off. Our office looked like a shell, resting on a pile of cinderblocks.

Anything that could possibly float away did just that. We had stacks and stacks of slot machine glass on shelves, and every trace of it was completely gone. We couldn't find any furniture-- I somehow found one credenza a ways away, but we lost every single important document and paper.

The storm trashed our company trucks. Some floated



away and others were tossed about. And what mother nature didn't do to our trucks, looters did. Looters siphoned all the gas and busted open the back doors and grabbed whatever tools and supplies they could.

While nature took certain things, it also deposited others. A silver Mercedes came out of nowhere and ended up mangled at our doorstep, wedged between one of our

moving trucks and the side of our office. We never found out where it came from.

What did "survive" the storm though, were our games. We located all 46 of our on-site slot machines. We found them smashed between buildings, in fields, in ditches. One machine was even under a neighboring house. Others were over fifty yards away. A contractor was removing debris nearby

with a front-end loader. He was digging up our slot machines left and right.

When all the games were retrieved, we had the pleasure of destroying them some more. The gaming regulatory board mandated that all machines had to be destroyed, so we obliged. It was really the best time I ever had. We removed the serial plates from the machines and trashed the rest. We got to slam and pummel the cabinets. This demolition was very therapeutic.

The Surreal Life

Life after Katrina was surreal. One person shot another over ice. Twenty-four-hour mega-stores like Wall-Mart closed down at 6pm. Where else in the country is McDonald's closed all the time? Plus, some people who were without shelter lived in our shell of an office for a while after the storm. They simply set up camp and stayed there.

Gas was the commodity in the highest demand, more so than food and water. It was, by far, the most sought-after product on the coast. Not only was the price of gas sky-high, you were limited to 20 gallons each visit. And gas stations were closed on Sundays. Lines were around the block at some stations, while others had run dry of supply.

On one memorable evening, I had a police officer pull a gun on me at a gas station.

CasinoTech

The Original Authorized Kortek Service Center

2470 Chandler Ave, Ste# 7, Las Vegas, NV 89120

Tel: 702-736-8472 • Fax: 702-920-8678

SALES@CASINOTECH.COM

www.CASINOTECH.com

VIDEO MONITOR SERVICE FOR

**IGT ♠ KONAMI ♠ BALLY ♠
ATRONIC ♠ WMS ♠ more**

CasinoTech provides the following services:

<i>Free Warranty Service for All Kortek CRT, LCD and PDP Monitors</i>	<i>Low Cost Out of Warranty Service on All Models</i>
<i>Next Day Service & Over Night Shipping Available</i>	<i>Schematics & Manuals for all Kortek Monitors</i>
<i>Chassis Boards, CRTs, Touchscreens & Controllers</i>	<i>Component Parts for all Kortek & Telco models</i>
<i>Replacement CRT & LCD Monitor Spares – New and Reconditioned</i>	<i>Low Cost CRT & LCD Monitor Conversions and Upgrades</i>
<i>Low Cost Reconditioned Boards and Monitors</i>	<i>Extended Warranty and Maintenance Programs</i>
<i>Board Swap, Trade-ins & Onsite Stock Programs</i>	<i>Strategic Pricing for Corporate Buys & Select Casinos</i>

... your one stop shop for all your monitor needs

As I walked up to the building, he thought I was there to steal gas, when I was only getting close to read the sign to see what time it was open.

Other businesses were just as under-supplied, surrounded by the same tense atmosphere. There were literally three-hour lines of people waiting to eat. Every business was understaffed.

Something like this really breaks things down to the most basic level. It forces people to think about things they usually wouldn't. You had thoughts like, "When's my next bath going to be?" Making a phone call was hopeless. It was almost impossible to communicate. In fact, the phone system over here is still messed up. My mobile voice mail still doesn't work.

Keep Working

After we dealt with the mess at our office, we entered the mess in nearby casinos. The Palace Casino was literally leaning thirty degrees. It felt like you were a character in a Dr. Seuss book-- everything was at an angle, slanted. After walking around for a little bit my legs were killing me from trudging up a constant incline. Stairways were horizontal. You couldn't help but laugh.

We agreed to strip down our games in this leaning casino, taking playfields, bill validators, and printers so they could use them as spare

parts. The games actually looked pristine, but we couldn't salvage them because the demolition company wanted the metal for scrap.

In another barge casino, we were checking on the status of a rented slot machine. Half of the casino was floating/leaking, with water all around. Over in a corner sitting by itself in a good spot was the rental game, a Titan cabinet. So there was this machine, standing not too far from a ruined casino floor, but in perfect condition. I cleaned all the stainless steel parts and it powered right up.

The Dust Settles

I have lived here most of my life and this hurricane was and is the worst. The benchmark for natural disasters used to be hurricane Camille in 1969, but Katrina is the new measuring stick. I was one of the few people I know whose house was livable. Most homes were destroyed in some way. I sold my house as soon as I could, but still live in the area. I was lucky. Others were left with rubble.

A lot of history was obliterated, too, like Tullis Manor. It was a celebrated example of period architecture that was flattened by the Grand Biloxi Casino barge when the casino was pushed on shore. Things are messed up when a floating casino destroys hundreds of years of history.

Katrina destroyed relics of

the past, but it also ruined some future projects, as well. It literally imploded the expensive, soon-to-be-opened Hard Rock Casino.

After the storm, it seemed like casino employees were all shook around like a holiday snow globe. When everything settled down, employees rejoined the workforce, but they were with different companies. You walked into a casino and recognized someone, but you recognized him from a different casino. Like musical chairs, people scrambled to get whatever job was available.

As a vendor, we stayed employed the whole time. In fact, Atronic helped us out immensely, way more than any insurance did. Atronic matched money raised through employee donations, resulting in a good chunk of change. The moment my department's director handed me the envelope with the check, well, it still gives me the warm and fuzzies thinking about it. And if I said I didn't shed a tear, I would be lying. It made me believe that I work for the best company around. Truly.

Help was really appreciated after the disaster. My dad brought almost one hundred gallons of gas from Texas, and I sent my two kids to live with him in the Lonestar State for a couple weeks right after the chaos. Later, Texas got hit by hurricane Rita, and my dad came here and stayed with us. Go figure.

Recovery

Everyone is punch-drunk from the looting. The mentality is "what's mine is staying mine," like the wild west. An insurance adjuster was shot by an angry homeowner. Other homeowners are in limbo regarding insurance. There are mass lawsuits circulating over policies, flood insurance, controversies over "wind-driven" clauses and claims. It's a mess. Right now there is still no such thing as "normal."

Yet, with all the looting and "bad" that came out of this, I've also seen a lot of good. My brother had his land cleared for free. Church organizations have been rebuilding houses for no charge. Charities have stepped up and other people have really shown their ca-

capacity for kindness.

Casinos are playing an important role in the recovery, too. Because people are looking for places to eat and places to go have a drink, they turn to casinos as one-stop shops. The only businesses in Biloxi going strong now are essentially the three casinos. I heard Harrah's in New Orleans had their highest coin-in ever during its re-opening.

People are looking for normalcy, looking for something to do-- so they go to the casinos. There is a lack of entertainment, and casinos are filling that void. I don't usually head out to them, but I have visited the casinos many times since Katrina, just to have something to do with friends and family.

As for work, we installed sixty-plus games at the start of the Coast rebuilding process. It felt nice to have something to do, to be back at work. Cabin fever was setting in-- it was good to do something other than cleaning and sorting. But the future is so unknown. I've learned to never underestimate mother nature. And I've learned a lot about being prepared.

As for the future of Gulf casinos, there is much rebuilding to be done and many predict that the business will become more centered on tourists. The industry has changed forever. Obviously, life has as well.

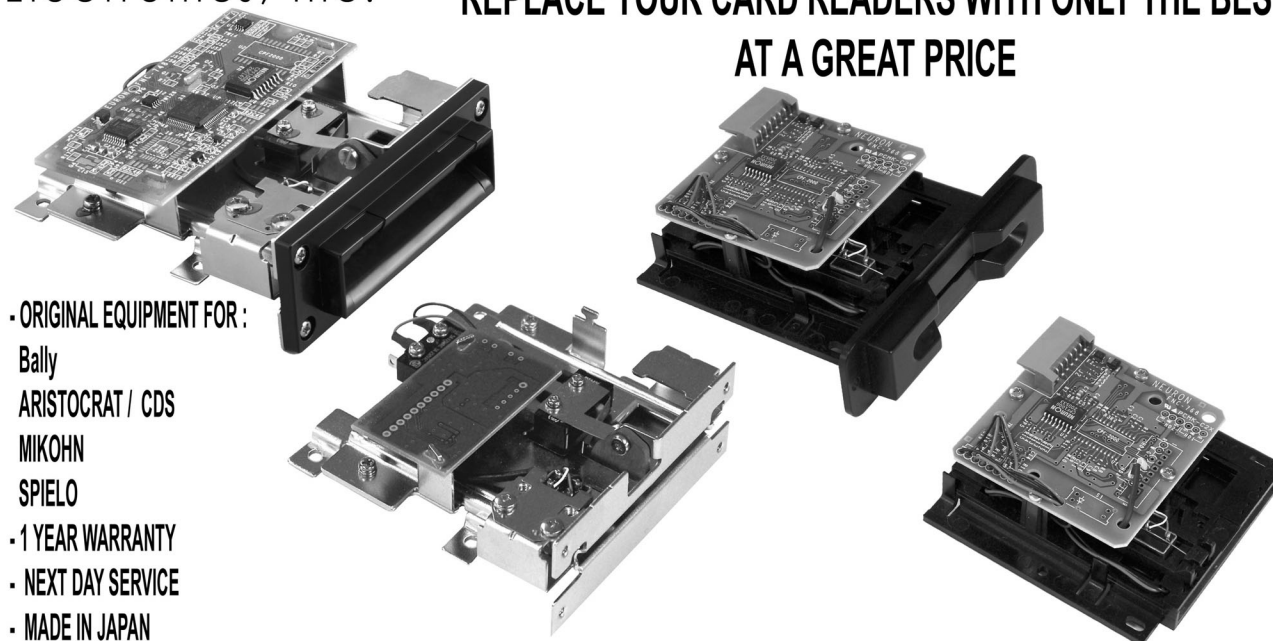
- **Michael Brennan**
mbrennan@atronic.com

NEURON
Electronics, Inc.

GET 99.9% OUT OF YOUR INVESTMENT

OVER 1 MILLION UNITS SOLD

**REPLACE YOUR CARD READERS WITH ONLY THE BEST
AT A GREAT PRICE**



• ORIGINAL EQUIPMENT FOR :

Bally
ARISTOCRAT / CDS
MIKOH
SPIELO

• 1 YEAR WARRANTY
• NEXT DAY SERVICE
• MADE IN JAPAN

3848 Del Amo Blvd. Suite 301 Torrance CA 90503 (800)366-4634

Slot Tech Event - TechFest 13 - TechFest 13 - TechFest 13 - TechFest 13



(Upper-left) Sencore's Don Multerer presented a hands-on "mini school" within TechFest. With four full sets of Sencore test equipment, 12 lucky attendees each day spent an entire afternoon with Don, learning how to repair LCD monitors and work with the gear. It was SRO, so we eventually had to install a row of chairs in the back of the room in order to accommodate the overflow.

(Above) TechFest 13 anchor presentation belonged to Jack Geller of JCM. As usual, this dynamic presentation discussed cleaning and calibration procedures for WBA bill validators as well as repair issues. Jack also took us on a much more detailed tour of their latest bill validator, the UBA and its multi-spectral optical recognition, automatic bill centering, advanced diagnostics and plastic cashbox.

(Left) David Oldham of Advanced Electronic Systems, Inc. addressed the group as the first guest presenter at TechFest 13, held at the Mystic Lake Casino and Hotel in Minnesota. David presented a technical look at MEI's Cashflow SC66 bill validator and the FutureLogic printer.



Coin Mechanisms' Mike Harris discussed calibration of Coin Mech products. He also presented a look at Coin Mechanism's line of cold cathode lighting products.



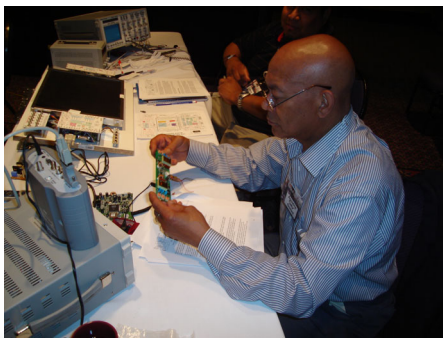
TechFest 13 - TechFest 13 - TechFest 13 - TechFest 13 - TechFest 13



Paul Hatin, Applications Engineer for 3M Touchsystems, Inc., presented a look at touchscreen technology. Troubleshooting and repair issues were discussed. He also presented a look at some new products such as "wireless" sensors and a sneak-preview of a new product that all slot techs will absolutely love but can't (for the moment) be revealed. Look for a Slot Tech Magazine exclusive report soon! Everyone received a free, slot tech T shirt and an aerosol can of touchscreen cleaning spray.



Tommy Talbot of AstroSystems, Inc. discussed their MicroCoin unit. He discussed the operation of the unit and calibration (none required) as well as programming. Giveaway Bonus: A really nice telescoping, magnetic retrieval tool. I saw a number of swordfights taking place in the hallway during breaktime following their disbursement but I was unable to take a photograph.



(Above) Ceronix's Paul Alexander discussed the operation and repair of their unique monitors. A full-color troubleshooting guide, complete with step-by-step repair flowcharts was given to every TechFest participant, along with a complete service manual for all Ceronix CRT monitors.

(Left) Atlantic City's most famous Cuban-American slot tech, Agustine "Lefty" Gomez, examines an LCD inverter board at the Sencore class. Always looking for ways to to hone his repair skills, Lefty also attended TechFest 7 in Atlantic City.





Slot Tech Magazine file photo

In the nearly 10 years the company has been in business, the name Gary Platt has become synonymous with comfort. Providing seating to the casino industry both domestically and abroad, Gary Platt Manufacturing has built a business on the equations “Greater Comfort Equals Longer Play” and “Ergonomics Equals Economics.”

Ergonomics is the science of refining the design of products to optimize them for human use. In the case of casino seating, it quickly became apparent that when ergonomic principles were applied to the chair design, casinos reported longer time on device.

In 2000, Gary Platt introduced its “X-Tended Play” line of seating. Designed for optimum comfort and time on device, the chairs can be seen at some of the top properties in the country, including the Atlantis Casino Resort in Reno. The Atlantis recently made the decision to install Gary Platt chairs throughout the casino, placing 1300 newly designed slot seats and 183 table game seats. (The Atlantis is always doing something nice to spruce

Casinos in the Comfort Zone with Gary Platt Seating

up the casino. See “The Lost Carpet of Atlantis, Slot Tech Magazine, March 2003. Page nine – ed.)

“The Gary Platt seats have received an overwhelmingly positive response from our customers,” noted Bob Wilber, director of corporate purchasing. “They truly enjoy the lumbar back support and the seat cushion comfort.”

Casino seating design has evolved into part science and part art. Of course, casinos want seats that are comfortable and durable but they also demand that casino seating integrate into and even compliment the casino’s interior design. Gary Platt provides a wide variety of fabric choices including custom designs and logos, and all seats are beautifully finished with double stitching.

“Players come in all shapes and sizes so we have to design for ultimate comfort regardless of a player’s size,” said Bob Yabroff, president of Gary Platt Manufacturing as he discussed with Slot Tech Magazine the challenges of casino seating design and manufacturing in today’s evolving casino market. “Add to that the demand for attractive seating that can also withstand the often harsh casino environment and wear and tear, and it presents even more of a challenge. We are constantly innovating, but remain committed to maintaining the most comfortable seats on the

market.”

Some of the performance features of Gary Platt X-Tended Play seats include molded high density foam that provides better support for players of all sizes, ergonomic lumbar support that eases back fatigue and promotes longer play, a waterfall seat design that is tapered for comfort and improved circulation, a contoured wood saddle that serves as the foundation of comfort, and a welded footrest that stands up to even the toughest customers.

You can find comfortable customers seated on Gary Platt chairs at casinos such as Barona Valley Ranch Resort and Casino, Harrah’s Rincon, Foxwoods, and the Commerce Casino – “Poker Capital of the World.” And, Gary Platt is the exclusive provider of slot seating for IGT, the worlds largest slot manufacturer.

The list of satisfied customers continues to grow as casinos realize that seating can be more than just a commodity – it can actually be a means to increased revenue through longer time on device. As the casino market heats up and casinos increasingly look for ways to differentiate and offer new amenities to players, they are catching on to the benefits of being in the comfort zone with Gary Platt chairs.

For more information, visit the website at garyplatt.com



"On behalf of Table Mountain Casino I just wanted to express our thanks to you and your team. I couldn't have asked for anything better."

Brian Rankin - Slot Technical Manager

On-Site Slot Tech Training Customized Classes Available

Randy Fromm's Casino School is a practical, no-nonsense look at how gaming machines work and how to repair them when they don't. **No previous knowledge of electronics is required** to get the most out of the school. The Casino School is geared for those who want to learn how to fix gaming devices without having to learn complex electronic theory or purchase expensive test equipment.

Be prepared for six hours of accelerated learning each day. Class begins at 9:00 am sharp each day and continues until 4:00 pm. The Casino School provides each student with reference materials and troubleshooting guides that will be valuable aids for repairing equipment on location and in the shop.

Students learn how to work with:



THE DIGITAL MULTIMETER

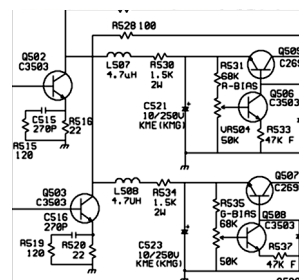
This relatively inexpensive piece of test equipment is easy to operate. Casino School students learn to use the digital multimeter to perform tests and measurements that will pinpoint the cause of a failure down to a single component.

ELECTRONIC COMPONENTS

The individual components used in games are introduced. Parts such as resistors, capacitors, diodes, potentiometers and transistors are covered individually. Students learn how the components work and how to test them using the meter.

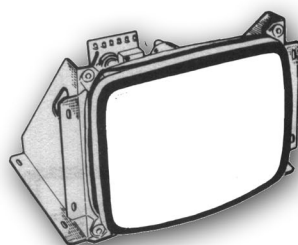
SCHEMATIC DIAGRAMS

Schematic diagrams are the "blueprints" for electronics. Learning to read schematics is easy once you know how the parts work!



POWER SUPPLIES

Power supply failure is a common complaint in many different types of systems. Power supply failures are discussed during the class, along with shortcuts for troubleshooting and repairing them.



MONITOR REPAIR

The monitors used in video slots are designed for quick, easy, and safe repair. Students will learn the theory of operation of all types of monitors and how to repair monitors down to the component level. Of course, monitor safety will also be discussed.

You do not have to send your slot techs to Las Vegas or Atlantic City for training. The Casino School brings the training to you. Contact Randy Fromm's Casino School today to reserve a date for your tech school

**Randy Fromm's Casino School 1944 Falmouth Dr. El Cajon, CA 92020-2827
tel.619.593.6131 fax.619.593.6132 e-mail CasinoSchool@slot-techs.com
For a complete brochure, visit the website at: slot-techs.com**

Coin Mechanisms Inc. Releases the Model MK 2 Universal Topper Sign



NEW PRODUCT RELEASE

Coin Mechanisms Inc. has announced the release of its Model MK 2 Universal Topper Sign, an innovative new approach to the gaming industry's sign topper. The adaptive design of our Model MK 2 Topper allows for a wide range of customer choice of cosmetic and operating design for different applications, such as in-venue promotional activities. The MK 2 also provides multi-enhanced visual impact with additional signage animation that highlights and adds excitement, drawing attention and players to your machine.

MK 2 Topper operational features include:

- Easy adaptive mounting to accommodate most slot machines
- Includes a provision for mounting of tower light
- All operational components are easily accessible from the front. Hinged front panel lifts to allow unrestricted access to remove and/or replace artwork
- Electrically safe double insulation and low voltage – 12 or 24 VDC
- Low power consumption, <12 watts with less generated heat
- Reduced maintenance with extended operating cycle ~ 20,000 hours 24/7
- Injection molded from lightweight high impact polymers
- Incorporates fully solid state, highly efficient CCFL and LED lighting
- Wide angle view of LED and illuminated artwork

For more information on this and all of Coin Mechanisms' latest products, visit our website www.coinmech.com , or call us toll free 800-323-6498

Contact:

Michael K. Meisinger
Coin Mechanisms, Inc.
400 Regency Drive
Glendale Heights, IL 60139
Toll Free 800-323-6498
Tel. 630-924-7070
Fax 630-924-7088
Email: mikem@coinmech.com



MultiMax

High Speed Stand-alone Device Programming System

EE Tools introduces the most cost effective high-performance Programming System to program leading high-density Flash memory and other programmable devices (such as Samsung's NAND parts) at near theoretical minimum programming times. MultiMax is a complete, stand-alone programming system, featuring a fully embedded operating system, a simple operator interface, and an ergonomic user-friendly design that minimizes process steps and maximizes performance. The MultiMax is designed to program even faster, so when Flash memories get bigger and faster, so will the MultiMax.

- Universal device support includes the latest NAND Flash Memory, Standard Flash Memory, EPROM, EEPROM, Serial PROM, and Microcontrollers
- 8-, or 16-gang programmer offers high throughput with outstanding yields
- Built-in 256 Mbit RAM buffer expandable to 1,536 Mbit
- Low voltage support down to 1.2 V
- Blank / Program / Verify 8 or 16 of 64-Mbit flash memories in 65 seconds
- Stand-alone operation with menu-driven keypad (23 keys) & 40 x 8 character LCD display
- Intelligent PC remote operation with powerful GUI software
- Stand-alone or PC operation via USB 2.0 interface for high-speed data transmission
- Supports Windows 98/Me/2000/NT/XP

MultiMax-8G	\$5,950
MultiMax-16G	\$9,950
TopMaxII	\$995
ChipMax2	\$475



ProMax

Concurrent Programming System

ProMax is the state-of-art universal programmer offers you the most advanced programming facilities for high-speed USB 2.0 PC-interface. It programs a 64Mbit flash memory in 42 seconds. ProMax supports the latest device technologies, regardless of package type.

The Gang Program Mode (Concurrent Programming Mode) can program any device and the fault-tolerant architecture allows the programmer to continue production even if one of the sockets should fail. As many as eight sockets ProMax can be controlled by a single PC with no loss of programming speed, reliability, or performance. Each programming site is completely independent of the rest and the system will completely program the first device by the time the operator has inserted the last device.

- Universal device support includes the latest NAND Flash Memory, Standard Flash Memory, EPROM, EEPROM, Serial PROM, and Microcontrollers
- Supports Windows 98/Me/2000/NT/XP
- Distribution of 16- and 32- bit data into 8-bit portions
- External START key allows production programming mode.
- Gang Program Mode allows programmers up to 8 units as concurrent programming system. (START ALL key enable to program the programmers simultaneously)
- Supports Windows 98/Me/2000/NT/XP

ProMax-4G	\$2,450
ProMax-8G	\$4,450



Other products from EE Tools: EPROM Emulator, EPROM Eraser, Single Socket Universal Programmers for USB 2.0 PC-interface (TopMaxII, UniMax, ChipMax2)

EE Tools offers customized programming algorithms at free of charge for gaming industry.

ee Tools

www.eetools.com

sales@eetools.com

tel: 866.496.6664 (free)

fax: 408.496.0006

Subscriptions & Back Issues

Why back issues of Slot Tech Magazine are important to own . . .

Slot Tech Magazine is strictly technical. As such, the magazine's contents are not time critical. The repair information and technical data contained in past issues is just as valid today as it was the day it was published.

Additionally, current and future articles more-or-less assume that readers are already familiar with what has been covered in past issues. This editorial policy assures that Slot Tech Magazine's contributing writers are not limited to "writing down" to the level of a novice technician but are free to continue to produce the most comprehensive technical articles in the gaming industry.



Randy Fromm's
Slot Tech Magazine is published monthly by:
Slot Tech Magazine
1944 Falmouth Dr.
El Cajon, CA 92020-2827
tel.619.593.6131
fax.619.593.6132
e-mail editor@slot-techs.com

Back Issues

All single issues of Slot Tech Magazine are \$10.00/ea.
For further details on the contents of each issue,
please refer to the website at slot-tech.com

- ☐ TechFest 10 - Live! - \$399.95
☐ 2001-2005 DVD Archive - \$199.95

2006 single issues @ \$10.00 each

- ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6
☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12

Subscription rates:

Domestic (USA & Canada)

- 1 year - \$60.00
2 years - \$120.00

International

- 1 year - \$120.00
2 years - \$240.00

Invoice me!

PO Number _____

Company Name _____

Contact _____

Address _____

Address _____

City _____ **State/Prov.** _____

Country _____ **Zip/Postal Code** _____

Telephone _____ **Fax** _____

E-mail _____

Type of card: ☐ American Express

☐ Discover

☐ MasterCard

☐ Visa

☐ 1 year subscription, domestic

☐ 1 year subscription, international

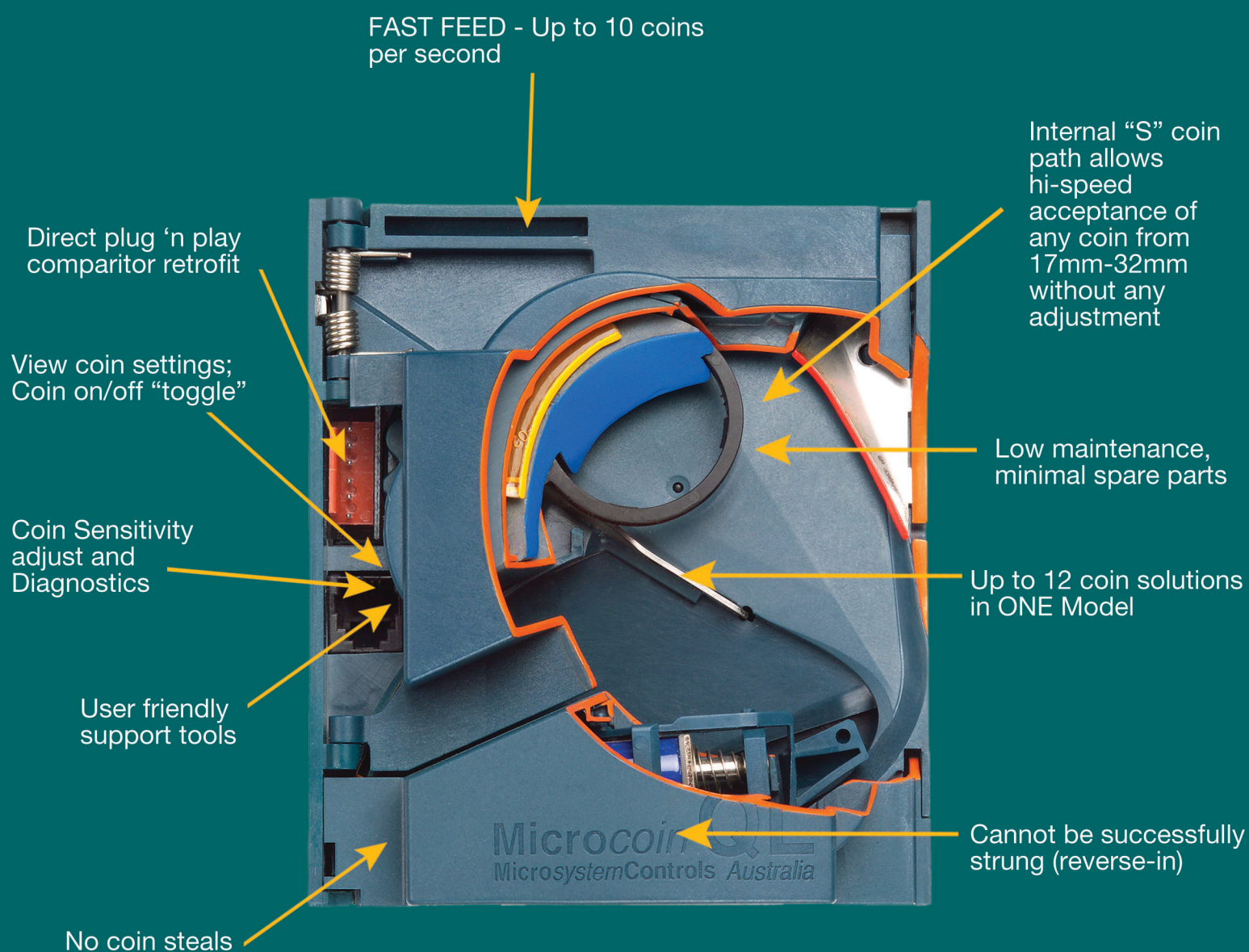
☐ 2 year subscription, domestic

☐ 2 year subscription, international

Account Number: _____

Expiration Date: _____

The TOP TEN Reasons IGT™ chose the Microcoin QL as its default small coin unit...



AstroSystems, Inc.
4210 Production Court
Las Vegas, Nevada 89115
Sales Inquiries: (702) 643-1600
QL Support: 1 866 QL ASSIST

www.microcoin.com



Microcoin QL



Go Online or
Call Today for Our
NEW
FULL COLOR
GAMING
CATALOG



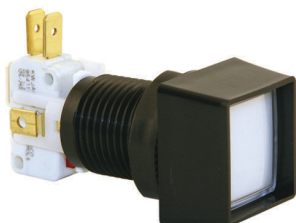
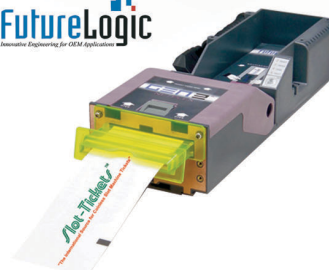
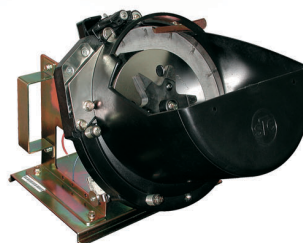
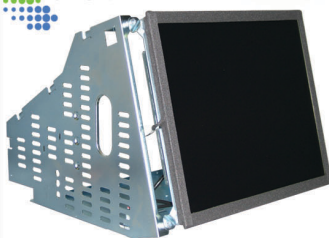
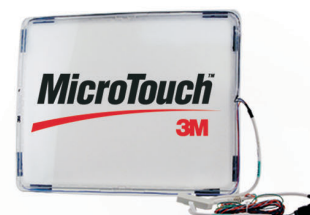
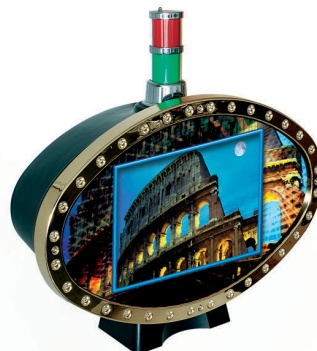
PLACE YOUR ORDER AT
happcontrols.com
TO OBTAIN EXCLUSIVE
WEB-ONLY SPECIALS.
SEE WEBSITE FOR FULL DETAILS

THOUSANDS OF PARTS FOR ALL YOUR GAMING NEEDS!

GAMING PARTS
PUSHBUTTONS
MATERIAL HANDLING
BILL VALIDATORS
SEATING

ACCESSORIES
ELECTRICAL SUPPLIES
MONITORS
& TOUCHSCREENS
CONTROL BOARDS

SECURITY
LIGHTING
CLEANING
& MAINTENANCE
TOOLS



SENCORE



HAPP®

Go Online to **happcontrols.com**
or Contact Us Directly
Toll Free Phone: 888-BUY-HAPP
Toll Free Fax: 800-593-HAPP



GAMING, AMUSEMENT &
INDUSTRIAL COMPONENTS