



by Mike Price

## What To Do If a Machine Malfunctions

Electronic devices malfunction. We've all seen the "blue screen of death" on our PCs or had our cell phones freeze for minute. Of course, computers, cell phones and other electronic equipment are well built and thoroughly tested before we use them, but sometimes even the very best equipment can have a small glitch in its daily operations.

The same can be said for slot machines and other electronic gaming devices. Because they are basically little computers, these types of gaming devices can also have a malfunction, even though they were well built and thoroughly tested.

Game malfunctions are caused by a RAM (or memory) malfunction. Just like your home PC, memory can get corrupted and result in an error condition, which is a random event that could happen anytime. But what triggers a malfunction? It could be a physical failure, like a bad power supply; a random event, like a lightning storm that caused a blackout; a buildup of heat inside the game that "melted" the logic board; or a bad harness of the connections.

Home computers and cell phones are one thing; slot machines in a multi-million dollar casino are another. A cell phone most likely will never tell you you've just won a \$20 million jackpot, but a malfunctioning slot game could. In fact, forensic teams have seen false jackpot readings of \$5 million, \$42 million, even some trillion dollar amounts. Electronic gaming devices will malfunction and it's what the property does when a malfunction occurs that makes all the difference.

### Protect the Scene

Jackpots are fun and exciting. They're supposed to be. When a large jackpot hits, players tend to gather around the winning gaming device. Likewise, a slot machine that has malfunctioned and is displaying an erroneous amount gets a lot of attention from other players. When a jackpot hits, the property should act with fairness in mind to protect both the property and the player, so that proper evidence is



gathered to either reward the player a legitimate jackpot or protect the property in the case of an erroneous jackpot. This starts with protecting the scene.

First, move players away from the game in question and have surveillance point their camera(s) directly at the game screen. Surveillance should also look at other games in close proximity to the malfunctioning device to see if they are displaying any error conditions. It is important to get detailed surveillance footage of the malfunction for both the investigation conducted by the lab as well as evidence of exactly what was displayed to the patron at the time of the malfunction. Photographs of the malfunctioning device as well as the other games in close proximity should also be taken as evidence, and you just can't take enough photos.

### Perform Verification Procedures

In some cases, what might initially look like a game malfunction is actually a legitimate win. For example, multiple line wins could allow the total to exceed the jackpot limit. For example, the maximum jackpot on a device could be \$50,000, and the player has won \$50,250. This could be legitimate because \$50,000 was won on the jackpot and another \$250 was won on another line. Look at the game, analyze the line wins, and if you suspect a malfunction, move on to the next step.

### Protect the Machine

Don't turn the key, don't try to diagnose the problem, and don't try playing the game to see if the malfunction happens again – these can all erase the memory of the bad game. Slot machines, just like PCs, have multiple checks and measures to prevent corruption of RAM. If a malfunction occurs, it is very important for the property to not try and clear the error condition.

Before any person touches the slot machine, the property should have adequate surveillance footage and photographs. At this point the game should simply be powered off after the main door is opened. Under no circumstance should the property try to clear the memory (RAM

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clear) the game. Once the game has been RAM cleared, there is no information left in the game’s memory, and all evidence of memory corruption has been erased and the lab cannot perform a forensic analysis. If there is collusion (multiple person(s) working together to cheat the machine), the first thing they would want to do is RAM clear the game to erase any evidence that someone had tampered with the game. You should also tape off the game’s immediate area with caution tape.

### **Determine Next Course of Action**

The gaming commission has to decide whether they want to send this in to the lab for forensic analysis. If there is a patron dispute or the possibility of a dispute, it is strongly recommend the game be sent into the lab for forensic analysis.

### **Protect and Scene Logic Board**

If the commission decides to submit the game to a lab for forensic analysis, contact your lab to discuss the details about

the malfunction and to obtain any necessary paperwork. Your lab should be able to provide you with specific instructions for your gaming commission based on the situation.

In the case of a game malfunction, you will need to send in the game’s logic board and other hardware and/or software, depending on the situation. To help you, every casino should have a “crash cart” stocked for exactly this situation. A crash cart should be equipped with a grounding strap, anti-static bags, caution tape, even a disposable camera so that everything you need is in one convenient place, ready to go.

Logic boards react to electricity, even static electricity, so the person removing the logic board must wear a grounding strap. While grounded, the technician should insert the logic board into a static free bag, and use this procedure when removing any and all electronic equipment from the game. Do not remove EPROMS from the logic board.

It is important to note that the gaming commission needs to maintain a chain of evidence log which may be requested



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## SLOT OPERATIONS

as evidence if this forensic goes to litigation. The gaming commission should implement procedures to secure the board and maintain a log of which person(s) handled the board and/or other hardware/software up until the time it is shipped to the lab.

### Obtain Copies of All Pertinent Reports

Be prepared to obtain copies of system reports, including ticketing and jackpot reports and event logs. The lab may request reports from the day this game was initialized on the slot floor.

### Obtain Surveillance Tapes of Incident

Tapes from before, during and after the incident are critical, and you can't take enough photographs of the device, the surrounding devices, displays and any error messages. This information enables the lab to accurately recreate and diagnose the cause of the malfunction.

### Write Detailed Summary Report

This should include the time/place of the malfunction, a detailed description of the malfunction and any information about the device, such as whether this malfunction happened before. Was there a power loss at this property prior to the malfunction? More information is better than less.

### Send Reports, Tapes, and Logic Board to the Lab

Make copies of all relevant reports and video tape(s) and package them together in one shipment to the lab. Remember, logic boards are sensitive equipment, so you should securely wrap them in bubble wrap so they don't get damaged by anything else in the evidence box. Securely packing all other items in the box will further protect the board and its integrity. Sending all evidence in one evidence box will help the lab in its investigation. This package should be handled just like evidence in a criminal case, and you should use a reputable overnight carrier, and make sure you have a tracking number.

Following these steps will help you, your gaming commission and your players feel more secure in what can be an uneasy situation. The thing to remember

is you can't prevent a malfunction; they are random, and they will occur. However, you can be prepared for when a malfunction does happen. Be prepared, stay calm, follow your procedures and contact the lab if you have any questions. They are there to help. ♣

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