



GEORGE JOSEPH

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Mr. \*\*\*\*\*  
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March 6, 2024

Phone: \*\*\*\*\*

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Hello \*\*\*\*\*,

Hope all is well.

I wanted to update you on the Deckmate 2 Shuffle machine hack.

**Hackers Rig Casino Card-Shuffling Machines for 'Full Control' Cheating** AUG 9, 2023 6:00 PM

Security researchers accessed an internal camera inside the Deckmate 2 shuffler to learn the exact deck order—and the hand of every player at a poker table.




With a tiny hacking device slipped into a shuffling machine's USB port, which often sits exposed under a poker table, IOActive's researchers showed they can carry out omniscient cheating in a game like Texas Hold Em

They ultimately found that if someone can plug a small device into a USB port on the most modern version of the Deckmate—known as the Deckmate 2, which they say often sits under a table next to players' knees, with its USB port exposed—that hacking device could alter the shuffler's code to fully hijack the machine and invisibly tamper with its shuffling. They found that the Deckmate 2 also has an internal camera designed to ensure that every card is present in the deck, and that they could gain access to that camera to learn the entire order of the deck in real time, sending the results from their small hacking device via Bluetooth to a nearby phone, potentially held by a partner who then could then send coded signals to the cheating player.]





-4- Hack Update 03.06.24

**The implication for Poker Hands and Carnival Game Hands is obvious.  
“What if hackers could trigger a Royal Flush on any of the Carnival Games  
with a progressive Jackpot...?”**

**Now consider a Hack which could arrange a Poker Bad Beat Jackpot.**



**Above is a \$1.9 million Bad Beat Jackpot hand in Kahnawake, Quebec CA.  
(This is the largest Bad Beat Poker Jackpot on record...August 3, 2023)**

**(FYI: A Bad Beat Poker Jackpot hit recently at Rivers Casino in  
Pittsburgh, PA for \$1.7 Million last year and a \$1.2 Million at Motor City  
Casino in Detroit, MI.)**

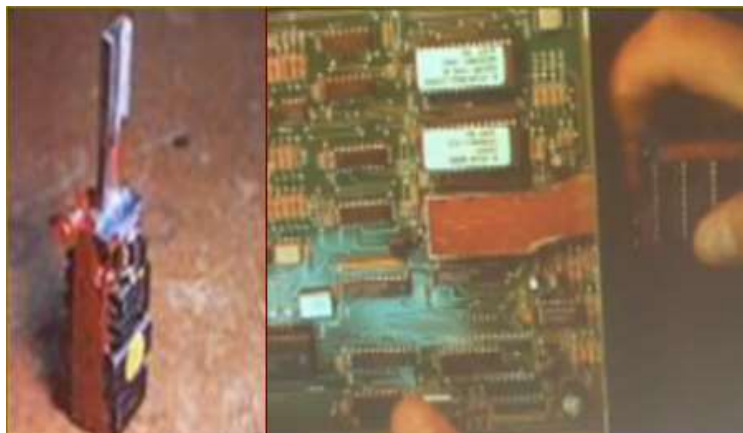
**Keep in mind, the Raspberry PI processor must be physically  
plugged into the exposed USB port. The simple fix which many casinos  
and Poker Rooms have taken is to block access to that USB port.**

-5- Hack Update 03.06.24

However, note the photo I took in my meeting with IOActive. Note the yellow ethernet cable.



I was told by the “Hackers” that with the use of a wireless network connection they could accomplish the same software corruption. I asked if once the machine software was corrupted would there be any evidence in the software code...? I compared my question to the Nikrasch device used to download Easter Egg corruption on the motherboard of a slot machine and trigger a slot jackpot.





-6- Hack Update 03.06.24

**If you remember, it was estimated that Dennis Nikrasch and his crew stole approximately \$16 Million in two years. His single biggest slot jackpot theft was \$3.7 Million at Harrah's on the strip. When the Gaming Board examined the slot machine with a Kobetron Device, they found no evidence of tampering. Nikrasch was clever enough to have a subcode which erased his Easter Egg after the jackpot pot was triggered. The eventual protection was to Scribble over any excess space on the EProm so no additional information (Easter Egg) could be downloaded.**

**According to the IOActive Hackers, using Bluetooth technology (in close proximity to the shuffle machine) if they could access an open network connection, they could accomplish they same software corruption remotely...No physical connection to a USB port. They could also (according to them) erase their corrupted code and restore the original code and leave no evidence.**

**Keep in mind, the IOActive guys are not casino cheaters. They accomplished their hack as an experiment in their office under their conditions not in a Poker Room or Casino. I did not see them assign known playing cards to particular shelves or create a known hand.**

**The implications however for any shuffle machine which employs camera technology and/or open networks is still in question.**

**I will update you.**

**Pease contact me if you have any questions.**

**Respectfully Submitted,**

**George D. Joseph  
Worldwide Casino Consulting**

**GJ/ccj**



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**From my previous memo August 23, 2023...**

**FYI: I have heard that in response to reports of the Deckmate 2 hack several Poker Rooms in Texas and Reno and California have begun to add a riffle shuffle (then cut) after taking the cards from the shuffler or have disabled the USB port on the Deckmate 2.**

**This policy would seem to disrupt any known order of shuffled cards as described, unless a false shuffle & cut were employed by the dealer in league with the conspiracy.**