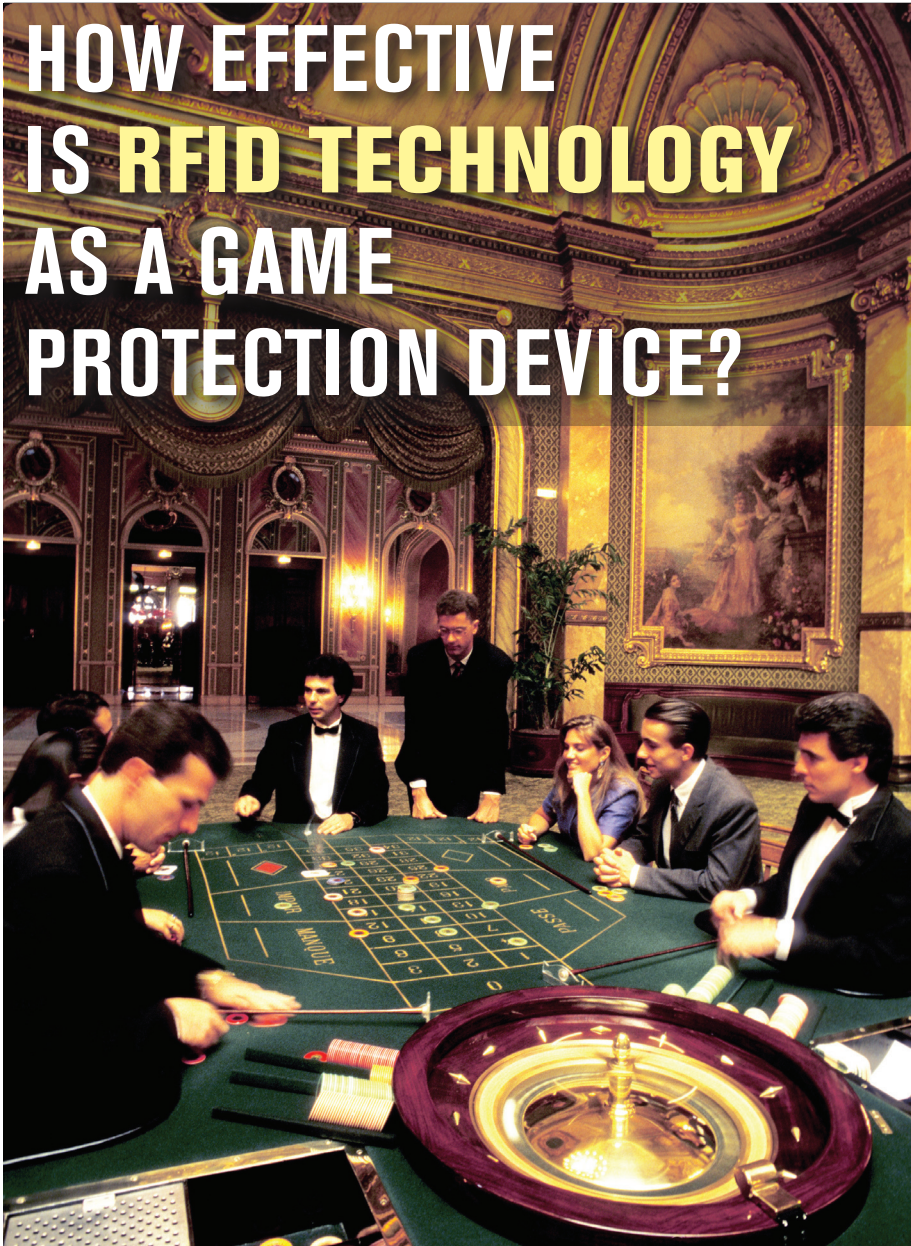


# HOW EFFECTIVE IS RFID TECHNOLOGY AS A GAME PROTECTION DEVICE?



Cut &amp; Deal

**IN AN INTERVIEW** with MSN back in November, 2005, I was asked to speak about the effectiveness of RFID technology as a tool to prevent cheating and internal theft in casinos. My opinion then was rather negative, as I stated that although RFID was a great innovation for casinos to track the gambling activities of its customers, mainly enabling a precise determination of average bets that governs executive decisions regarding comp awards and other benefits, its effect would not be that demonstrative in combating casino cheaters and dishonest employees who steal. Has my opinion since changed?

In some ways, yes. At the recent G2E Global Gaming Expo in Las Vegas I had the opportunity to speak with representatives of Progressive Gaming International and other companies involved with the producing and marketing of RFID technology.

Going in, I had the pervasive opinion that skilled casino cheaters were capable of skirting or disarming anti-cheating technologies the way computer hackers write programs to break source codes and maneuver through security systems protecting government, banking and online gambling websites. Much of this predisposition was due to a similar experience I had back in 1993, while attending another gaming trade show in Las Vegas. There, I stumbled across a booth in which two Englishmen were demonstrating their “anti-pastposting” roulette wheel. To my amusement and consternation, I watched as one of them played the dealer, asking me – at the time the world’s most notorious casino cheater (unbeknownst to them) – to spread some bets over the layout. Then he spun the ball and in his classy British accent called out, “No more bets, please!” just as roulette dealers do in

For this special Cyber Crime issue of iGaming Business magazine, author **Richard Marcus** tells us how RFID technology helped to police the casinos in the offline world.

real casinos. As he said it, I saw him push a button built into the layout in his working well.

The second Englishman then advised me to “Go out and make a late bet.” As if I never tried that before! I chuckled to myself, then accommodated him, but as soon as my arm encroached into the betting area of the layout, a loud siren started barking at me and even turned the heads of passersby crossing in front of the booth. “You’re caught!” the second Englishman chirped with a smile. “You see, it’s impossible to pastpost a bet on these wheels and not get caught.” I nodded and then quipped back, “Unless the dealer forgets to push the button.” The three of us shared a laugh.

I have to say that I was quite impressed by their little gizmo, especially since at the time my livelihood was centered on pastposting roulette wheels. Their anti-pastposting device with its siren posed a real threat to the roulette operations of my cheating career, if ever it became standard on roulette tables the way hole card readers have on the world’s blackjack tables. Upon further conversation with the two Brits, I learned that their device had already been installed in several casinos in London and they were waiting for approval from the Nevada Gaming Control Board’s Enforcement Division to get a field trial for it in Las Vegas. Well, this was more bad news for me and my team as we already had air tickets on a flight leaving for London two weeks later. We certainly were not about to cancel the trip; we figured we’d just stick to blackjack and baccarat to make our money.

## FLICK THE SWITCH

In London, we soon found out that the Brits had not been bull----ing. Inside the very first elegant casino we entered, I noted that half the roulette tables had the pastposting alarm button in the dealer’s well, in the same spot I’d seen it on the prototype table at the Vegas gaming expo. As bad luck would have it, the wheels without the device were full, so our choice was either going up against the anti-pastposting roulette tables or attacking blackjack and punto banco. Just about ready to concede roulette defeat and head to blackjack, an idea struck me. I suddenly said to my partners, “I think I figured out how to beat this thing.” They both looked at me confusedly; one

asked simply, "How?" I smiled, "We get them to shut the damn alarm siren off."

The three of us sat at one of the anti-pastposting tables. We were all accompanied by our girlfriends, all of whom were willing to do what it took to help our cause. For the time, we were in an experimental phase, trying to defuse what was the first ever non-surveillance electronic attempt to block cheating at the tables. Everyone at the table was in a typical European roulette frenzy (roulette tables there tend to have much more action than in the US and Asia) to get all their bets on the layout when the gentleman dealer called, "Finish betting please," and then closed off the betting with a sweep of his arm above the layout. Everyone, including us, obediently stopped betting. But then my partner Joe, sitting across the layout from the dealer and acting on cue, asked my girlfriend Dawn, who sat at the bottom of the table, if she had a spare cigarette. Dawn said, "Sure," reached into her handbag, grabbed her pack of Marlboros and passed them to Joe, purposely letting her arm cross over the betting area of the layout. The anti-pastposting siren went off and Dawn got scolded by the dealer, who said strongly but politely, "Please don't reach over the layout until I open the betting for the next spin." Dawn apologized, then the dealer explained that the device was there to prevent late-betting, using the customer-friendly casino euphemism for pastposting. Dawn blushed and apologized again.

When the dealer waved off the betting on the following spin, Dawn asked my other partner Mark, standing at the only position allowed on the inside of the table, for a light. Mark immediately removed his lighter from his pocket and passed it across the layout to Dawn. The siren went off again. This time the dealer's reprimand not to reach over the layout was noticeably less polite. When the betting was closed on the third spin and Tina, Mark's girlfriend, "accidentally" lost control of one of her rolling chips and reached onto the layout to retrieve it, again setting off the device, the dealer's rebuke carried a swift and nasty tone. But we didn't stop our barrage of setting off the siren. It soon turned into a "sirenfest" that was not only upsetting the dealer and the rest of the casino personnel in the pit, but also embarrassing the other players at the table not with us. Finally, as we all pretended to be getting drunk and continued our disrupting forays onto the green roulette felt, the supervisor in charge of the game ordered the dealer to shut off the siren. The dealer flicked a switch, disarmed it, and in doing so opened our path to pastposting the anti-pastposting roulette table, which we did successfully and got the money. Soon after that London trip, those anti-cheating roulette tables disappeared forever from the casino landscape.

Back at the G2E in Vegas, with this humorous roulette incident on my mind, I engaged the PGI representative in conversation about how RFID chips and table technology could render cheating

useless. We spoke in depth about bet-pressing, pastposting and pinching (decreasing the bet after a losing outcome is known). I was now interested from a different perspective, not as a cheater but as a game protection consultant searching for the right advice I could give my casino clients. The strengths of RFID chips are obvious. They do register on a monitor when they are placed in the sensitized betting areas. If a cheater tries any of the chip manipulation techniques, the changes in number of chips and chip-value amount will register fast enough to possibly thwart the cheater. But notice I said "possibly." Why? Because the fact that the technology picks up the manipulation of chips and transmits it to a monitor does not alone seal the deal. Firstly, the dealer does not look at this monitor, so he is unaware of the cheating move unless he actually sees it. Second, the floor

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supervisor assigned the particular game will probably not be watching the monitor inside the pit at the precise moment the cheating move happens, so unless there is an audible alert, he can miss it too. Granted, the alert will also be visible on monitors in the surveillance room, but will surveillance operators be tuned into quickly enough to A) see it, B) correctly evaluate it and C) transmit the information back down to the floor supervisor in the pit, quickly enough to hold up the cheater making the move? I really don't have the answers to this, but clearly there is some doubt as to the system's absolute effectiveness. What I do know is that RFID, just like surveillance cameras, will not adequately protect the casinos against cheaters if their human staffs are not on the ball.

#### INTERFERENCE

There are other concerns I have about its effectiveness. The most important is the simple fact that RFID signals can easily be interfered with at the tables. With as little as an ordinary cell phone a cheater can hamper the signal and cause errors in the readings displayed on the monitors. Sophisticated cheaters using various electronic equipment would probably be able to immobilize the technology for lengthy periods of time, enabling them to engage in many cheating operations at the table that require a reduction of the casino's ability to track their bets. Another potential problem is that cheaters can "traffic" the

actual chips. What I mean by that is that they can take high-denomination chips off the table and out of the casino, where they can render the RFID chips within the casino chips useless. Then the casino chips become "RFID-invisible" on the tables, which for someone of my cheating ability opens up important opportunities. What comes to mind is my infamous "Savannah" move where I hid \$5,000 chips underneath \$5 chips to make dealers believe there were two \$5 chips there. Suppose I trafficked a \$5,000 chip and a \$5 chip, then bet them with the \$5,000 chip hidden. The bet would not register with RFID, and the dealer would not notice it since there are dozens of bets on the layout for every spin at a busy roulette table. If the bet loses and I rake it off unseen, the casino won't know it. If the bet wins and I claim the legitimate winner, the casino will balk at paying because it never registered with RFID. What happens next?

Well, the first thing the casino will think is that those winning chips are counterfeit because they didn't register with RFID. They would then have to notify the gaming authorities who'd come to the casino and investigate the suspicious incident. After reviewing surveillance tape and finding no evidence of a cheating move, the only thing to resolve would be whether the chips are genuine or counterfeit. I imagine the only way to do that would be to bring in the actual manufacturer of the chips to make the verification. Hopefully, they'd be able to do so, but my point is that I would have gotten away with the scam because I trafficked the chips. Another crucial element to this potential breach is having the ability to reactivate the deactivated RFID chip in a casino chip, so that upon redeeming their chips at the cage, cheaters' chips would register normally on the monitors and thus be cashed out without question.

#### CONCLUSION

So, what's my overall conclusion? RFID technology will wipe out most forms of cheating involving chip manipulation, including those mentioned above. Only the best of the best cheating teams practicing chip manipulation will find ways to beat RFID, and only some of them will be profitable enough to warrant their efforts. RFID will also help expose betting patterns that cheaters often use to obtain the big-denomination chips they need for their moves, and make it easier for casino employees on the floor to recognize "offset" betting patterns used by cheaters trying to camouflage their scams and phony high rollers looking to bilk casinos out of comps for false play. On the other hand, RFID as it now exists will do nothing to thwart cheating operations based on card-marking or card manipulation, nor will it prevent ball-tracking roulette scams and craps moves involving manipulation or modification of dice. It could, however, depending on its application, make it more difficult for dealers working with or without agents to steal chips, and it certainly would make it a world more difficult to counterfeit chips...or should I say counterfeit RFID chips? ■