

# What Exactly is a ‘Chip Card’ and Why Should You Care?



When it comes to credit card fraud, it's safe to say that there is no perfect guard today against identity theft and the stealing of other financial information. Nevertheless, significant strides are being made with the ongoing adoption of the so-called EMV or “chip” card. Most if not all of us are familiar with it – that distinctive microchip embedded in your credit or debit card that looks almost like a small piece of modern art.



## What is a Chip or EMV Card?

EMV acquired its initials from Europay, MasterCard and Visa, the three major payment card issuers that developed the EMV security technology more than 20 years ago (Discover and American Express are now on the EMV bandwagon as well). Today, according to a recent report in Credit Union Times, almost half of the card transactions in the world involve EMV

chips, but U.S. adoption has been slower due to our more complex financial and regulatory systems.

So, what exactly is this “chip?”

The chip that you see embedded in your plastic payment card is a fully functioning microcomputer that generates and communicates a unique, one-time transaction code with the host financial institution every time the card is used by inserting into a chip-activated terminal. Granted, it takes a little longer for the card transaction to be completed compared to the non-EMV card – although it is getting faster. But, because of the unique code, it is virtually impossible for a criminal to duplicate the onboard data to create a counterfeit card, protecting you against fraud.

The computer chip is also replacing the ubiquitous magnetic stripe that was the primary guard against fraud in the U.S. until EMV technology arrived. That **magnetic stripe** on traditional credit and debit cards contains sensitive data about the cardholder that is necessary to make purchases with that specific card.

However, the problem is that the data do not change and whoever accesses the data, such as fraudsters, can easily use the information to reproduce multiple counterfeit cards. Today, the credit and debit cards that are being issued to cardholders have both the chip and the magnetic stripe to cover both security bases as our country continues the process of fully adopting EMV technology.

How Effective is the Chip?

According to [creditcards.com](http://creditcards.com), MasterCard reports that as of Oct. 31, 2016, there were 2.3 million chip-active merchants across the U.S. representing approximately 38 percent of all U.S. retailers. With the growing adoption of chip cards, card fraud has declined significantly, according to major credit card issuers such as Visa and MasterCard.

As part of the [creditcards.com](http://creditcards.com) report, Visa states that from October 2015 to October 2016, it has seen a 43 percent decline in counterfeit fraud among its merchants, and MasterCard recorded a 54 percent decrease from April 2015 to April 2016. In fact, taking into account all merchants, even those that are not EMV connected, fraud has dropped 14 percent across the board, which underscores that the chip is making a big difference in enhancing card security.

## **We Still Have a Way to Go**

**While it may seem like almost every merchant big and small has an EMV terminal at the checkout, the road to full adoption in the U.S. has been a long one and we are not there yet. As previously noted, approximately 38 percent of all merchants are equipped to accept chip cards, which means 62 percent are not.**

**What's missing are the millions of gas pumps and ATMs that have yet to adopt the chip technology due to the higher expense and degree of difficulty in doing so. While operators of ATM networks are in the process of retooling their machines for EMV compliance, the challenges associated with so-called "automated fuel dispensers" (i.e. gas pumps) are much greater.**

**Consequently, according to [creditcards.com](https://creditcards.com), **all the major payment card issuers** have extended the date by which EMV is required at fuel pumps from October of this year to October 2020. But if all goes as planned, according to [creditcards.com](https://creditcards.com) U.S. cardholders should be protected by EMV across the full spectrum of credit and debit transactions by 2021, which should provide consumers with another tool in the fight against fraud in the years to come.**

For more information visit  
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