EMV Transactions (Credit / Debit Chip Cards)

WHAT IS EMV?

EMV stands for Euro, Master Card, Visa, the consortium that created the chip standard.

EMV is the set of standards that have been defined to replace the magnetic stripe and PIN Numbers on credit and debit cards.

WHY IS THE US SWITCHING TO EMV?

The United States is one of the last countries to switch to EMV. This makes the US a target for processing fraudulent transactions as most of the world has already switch to EMV. Card numbers stolen elsewhere in the world are being processed fraudulently in the US.   The switch is being made to reduce credit and debit card fraud, which in turn should reduce credit card transactions rates.

CHIP AND PIN

Chip and PIN are transactions where the customer inserts their chip card in a chip reader, they are then prompted to enter their PIN number. The PIN Pad then asks the chip if the PIN is correct. This allows PIN to be checked even if the connection to the processor is down. If the PIN is correct the transaction is completed with the processor and a transaction receipt is printed. No signature is required.

Note, with some chip cards, the user may be asked to sign the receipt on use. This is because the CHIP does not contain the PIN, and the chip is then loaded with the PIN from the bank. The signature is used to verify that the card is in the hands of the correct user.

The card issuer (the bank that issued the card) determines whether the chip will be Chip and PIN or Chip and signature. Normally bank debit cards will be PIN entry, and credit cards may be either. In most other countries it is just Chip and PIN. This helps to protect against stolen cards and it is also more convenient for both the customer and merchant once they learn to use it.

CHIP AND SIGN

Chip and PIN are transactions where the customer inserts their chip card in a chip reader. The transaction is completed with the processor and a transaction receipt is printed. A signature is then required on the merchant receipt and the clerk must verify that the signature on the receipt matches the signature on the back of the card. Even with electronic signature capture, the signature is not checked with the signature on file with the card issuer. Verifying the signature is a difficult process when the card is probably still in the hands of the customer and few clerks are trained or able to detect incorrect signatures.

CHIP HANDLING

If the card has a chip, the card should be inserted, chip first into the chip reader slot, normally at the bottom of the PIN Pad. Ensure it is inserted all the way in.

The chip card must left in the chip reader until the customer / or clerk is prompted to remove the card. If the card is removed too early the transaction will not complete.

If the card does not have a chip, it must be swiped on the Magnetic Stripe Reader (MSR).

If you swipe a chip card through the MSR, the PIN Pad will prompt the customer to insert the card instead. If you receive the prompt to insert, but there is no chip, it may mean that the card is fraudulent. To override, insert the card anyways. The PIN Pad will not detect the chip and then prompt you to swipe the card on the MSR.

It is important that you make sure that the customer removes the card from the chip reader and does not forget it.

System Five will not allow the transaction to complete until the card is removed from the card reader.

A new transaction cannot be started if there is a card already in the chip reader. Do not allow the customer to insert the card until the PIN Pad prompts them to insert the card. If they insert the card to early they will have to remove it and re-insert the card. These safety features are to ensure that chip cards are not left in the card reader and the next customer uses the card. Unfortunately most major retailers in the US have been conditioning the customer to swipe the card before the sale is complete.

CONTACTLESS / NFC

Many of the chip cards now being issued are being issued with contactless features (tap and pay, visa payWave, PayPass ExpressPay, Apple Pay, ect). The customer can usually tap their card (or phone) on the pin pad and the PIN Pad will read the card number and an additional sequence number. There is usually a limit on the amount that can be paid with a contactless tap and there may be limits on the number of consecutive contactless payments.

EMV Debit Cards

The US EMV debit card network is not yet operational and is not expected to be operational until early 2016. In the meantime, Chip enabled debit cards can be processed by swiping the card instead of inserting. Debit cards are not included in the EMV Liability shift.

RECEIPTS

Part of the EMV standard is how the receipts are printed. The receipts must be formatted in a specific way and must contain specific tracking information. For this reason and to make certification easier, the receipt format is not modifiable, though you can add headers and footers to the receipts.