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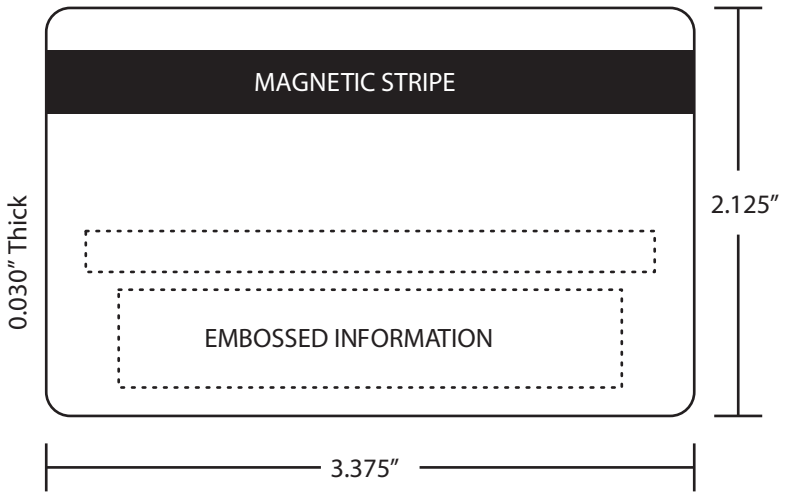
SECURITY FROM THE INSIDE

# MAGNETIC STRIPE CARD STANDARDS

## Dimensions - Financial Transaction Cards




| ISO | |
|---|---|
| 7810 | Physical characteristics of credit card size document |
| 7811-1 | Embossing |
| 7811-2 | Magnetic stripe - low coercivity |
| 7811-3 | Location of embossed characters |
| 7811-4 | Location of tracks 1 & 2 |
| 7811-5 | Location of track 3 |
| 7811-6 | Magnetic stripe - high coercivity |
| 7813 | Financial transaction cards |

For copies of specifications contact:
American National Standards Institute
11 W. 42nd Street, New York, NY 10036
212-642-4900

## Magnetic Stripe Encoding - Financial Transaction Cards

| 0.223" | Track | | Recording Density (bits per inch) | Character Configuration (including parity bit) | Information Content (including control characters) |
|---|---|---|---|---|---|
| 0.110" | 1 | IATA | 210 | 7 bits per character | 79 alphanumeric characters |
| 0.110" | 2 | ABA | 75 | 5 bits per character | 40 numeric characters |
| 0.110" | 3 | THRIFT | 210 | 5 bits per character | 107 numeric characters |

## Card Data Format - Track 1

76 ALPHANUMERIC DATA CHARACTERS

| SS | FC | PAN | FS | NAME | FS | ADDITIONAL DATA | DISCRETIONARY DATA | ES | LRC |
|---|---|---|---|---|---|---|---|---|---|

Primary Account No. (19 digits Max.)

Name (26 alphanumeric characters Max.)

| No. of characters | |
|---|---|
| Expiration date (YYMM) | 4 |
| Service Code | 3 |

| No. of characters | |
|---|---|
| *PVKI | 1 |
| *PVV or Offset | 4 |
| *CVV or *CVC | 3 |

Some or all of the above fields may be found with the discretionary data

| | | | |
|---|---|---|---|
| SS | Start Sentinel % | FC | Format Code |
| FS | Field Separator ^ | LRC | Longitudinal Redundancy Check character |
| ES | End Sentinel ? | | |

*(PVKI) PIN Verification Key Indicator
*(PVV) PIN Verification Value
*(CVV) Card Verification Value
*(CVC) Card Validation Code



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## Card Data Format - Track 2

37 NUMERIC DATA CHARACTERS

| SS | PAN | FS | ADDITIONAL DATA | DISCRETIONARY DATA | ES | LRC |
|---|---|---|---|---|---|---|

Primary Account No.
(19 digits Max.)

| No. of characters | |
|---|---|
| Expiration date (YYMM) | 4 |
| Service Code | 3 |

| No. of characters | |
|---|---|
| *PVKI | 1 |
| *PVV or Offset | 4 |
| *CVV or *CVC | 3 |

Some or all of the above fields may be found with the discretionary data

SS Start Sentinel Hex B ;

FS Field Separator Hex D =

ES End Sentinel Hex F ?

LRC Longitudinal Redundancy Check character

*White boxes identify control characters

## Card Data Format - Track 3 (ISO 4909)

104 NUMERIC DATA CHARACTERS

| SS | FC | PAN | FS | USE AND SECURITY DATA | ADDITIONAL DATA | ES | LRC |
|---|---|---|---|---|---|---|---|

Primary Account No.
(19 digits Max.)

| No. of characters | |
|---|---|
| Country Code (optional) | 3 |
| Currency Code | 3 |
| Currency Exponent | 1 |
| Amount Authorized per Cycle | 4 |
| Amount Remaining this Cycle | 4 |
| Cycle Begin (Validity Date) | 4 |
| Cycle Length | 2 |
| Retry Count | 1 |
| PIN Control Parameters (optional) | 6 |
| Interchange Controls | 1 |
| PAN Service Restriction | 2 |
| SAN-1 Service Restriction | 2 |
| SAN-2 Service Restriction | 2 |
| Expiration Date (optional) | 4 |
| Card Sequence Number | 1 |
| Card Security Number (optional) | 9 |

| No. of characters | |
|---|---|
| First subsidiary Account No. (optional) | |
| Secondary Subsidiary Account No. (optional) | |
| Relay Marker | 1 |
| Cryptographic Check Digits (optional) | 6 |
| Discretionary Data | |

*A Field Separator (FS) must be used if an optional field is not used

SS Start Sentinel Hex B ;

FS Field Separator Hex D =

ES End Sentinel Hex F ?

FC Format Code (2 digits)

LRC Longitudinal Redundancy Check character

*White boxes identify control characters

The track formats used in this document are based on ISO Standards, however, other formats may be used. Contact your card issuer for your exact requirements

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