# MAGNETIC STRIPE CARD STANDARDS

## Dimensions - Financial Transaction Cards
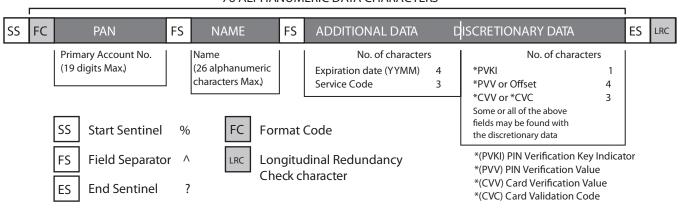
**MAGNETIC STRIPE**

**EMBOSSED INFORMATION**

0.030" Thick

2.125"

3.375"

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 | % |
| FS | Field Separator | ^ |
| ES | End Sentinel | ? |

| FC | Format Code |
| LRC | Longitudinal Redundancy Check character |

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

# Card Data Format - Track 2

**37 NUMERIC DATA CHARACTERS**

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

**PAN**
Primary Account No.
(19 digits Max.)

**ADDITIONAL DATA**
No. of characters
Expiration date (YYMM)    4
Service Code    3

**DISCRETIONARY DATA**
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 | ; |
|---|---|---|---|

LRC    Longitudinal Redundancy Check character

| FS | Field Separator | Hex D | = |
|---|---|---|---|

| ES | End Sentinel | Hex F | ? |
|---|---|---|---|

*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 |
|---|---|---|---|---|---|---|---|

**PAN**
Primary Account No.
(19 digits Max.)

**USE AND SECURITY DATA**
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

**ADDITIONAL DATA**
No. of characters
First subsidiary Account No. (optional)

Secondary Subsidiary Account No. (optional)

Relay Marker    1

Cryptographic Check Digits    6
(optional)

Discretionary Data

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

| SS | Start Sentinel | Hex B | ; |
|---|---|---|---|

FC    Format Code (2 digits)

| FS | Field Separator | Hex D | = |
|---|---|---|---|

LRC    Longitudinal Redundancy Check character

| ES | End Sentinel | Hex F | ? |
|---|---|---|---|

*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