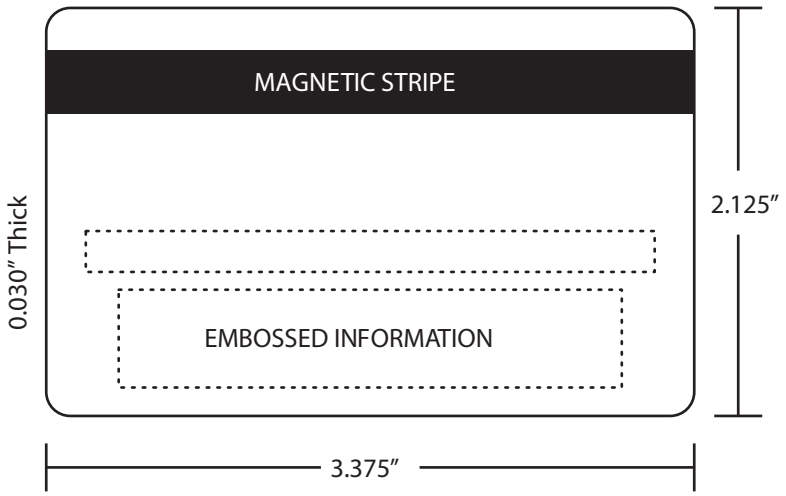
MAGTEK®
SECURITY FROM THE INSIDE

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

IPR2025-01151
Apple EX1022 Page 1

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

MAGTEK®
SECURITY FROM THE INSIDE

MagTek, Inc. | 1710 Apollo Court, Seal Beach, CA 90740 | p 562-546-6400 | info@magtek.com | www.magtek.com
© Copyright 2011 MagTek, Inc. PN 9980004 rev 1.08 9/11