CardLogix Smart Card Solutions

Product Selection Guide

Dual-Interface Card

Contactless Card

CR-80 8-Pin Card

SIM/SAM Card

Keychain Card

CardLogix

Smart cards can improve any transaction involving data and value. When you design your smart card system, comprehensive planning means optimal results. This guide is meant for general reference only, and does not cover every possible design step and contingency.

The First Four

1. Do you require a completely original design? Or is there an existing application that you can use? (For the latter, please visit CardLogix Smart Partners at http://www.cardlogix.com/smartpartners/)
2. Is there a clear business case? Does it include financial and consumer behavior factors?
3. Will the smart card handle data, value, or both? Adding a value function increases system design security and complexity.
4. What are the card's essential features? With multiple functionalities, prioritize, starting with the most important one and phase in additional features incrementally.

Basic Setup

1. Will the system be single-application or multi-application?
2. Are there industry standards (e.g. ISO, EAL, or ETTSI) to conform to for specific encryption or chip requirements?
3. What information do you want to store in the cards?
4. How much memory is required for the applications?
5. If the system is multi-application, how will you separate different types of data?
6. Will data be obtained from a database or loaded each time?
7. Will this data concurrently reside on a database?
8. How many smart cards will be needed?
9. Have card or infrastructure vendors been identified? What are their lead times?
10. What are the required readers, handsets, terminals, and software?
11. Is a Card Management System (CMS) necessary?
12. How many types of artwork will be included in the issuance?
13. Who will design the artwork?
14. What is needed on the card (e.g. signature panels, magnetic stripes, embossing, etc.)?

Value Applications

1. Is value in your cards reloadable or one-time use?
2. How will you distribute the cards?
3. How will cards be activated and loaded with value?
4. Will there be a refund policy?
5. What is the minimum and maximum value to store on each card?

Security

1. What are the security requirements?
2. Does all of the data need to be secure? Or only some?
3. Who will have access to this information?
4. Who will be allowed to change this information?
5. In what manner will you secure this data? (e.g. encryption, host passwords, card passwords, PINs, etc.)
6. Should keys/PINs be customer or system activated?
7. How will you identify the card issuance and versions?
8. Will the system utilize PKI and Digital Certificates? If so, how will they be managed?
9. What about security printing options? (e.g. guilloches, microprinting, holograms, hidden images, etc.)

Deployment Recommendations

1. Establish clear and achievable program objectives
2. Analyze the application and IT environment
3. Make sure the organization has a stake in the project's success and that management buys into the program
4. Set a budget
5. Name a project manager
6. Assemble a project team and create a team vision
7. Graphically create a dataflow diagram
8. Assess the card and reader options
9. Write a detailed specification for the cards and system
10. Set a realistic schedule with inchstones and milestones
11. Establish security parameters for people and the system
12. Build your on-card and host file structures
13. Phase in each system element and test as you deploy
14. Reassess your system for security leaks
15. Deploy the first phase of cards and test the system
16. Train the key employees responsible for each area
17. Set up a system user manual
18. Check the reporting structures
19. Create contingency plans, should problems arise
20. Deploy and announce your system
21. Advertise and market your system

CardLogix

CardLogix' Smart Toolz®, M.O.S.T. Toolz™, and Java-based open source software enable low-cost, high-performance system development for identity and stored value. Geode™, S@t Manager, and VirtuoSimo™ speed handset and operator solutions for mobile applications. For expert system integration, these tools, plus other hardware, mesh together for a best of breed smart card-based system.

Smart Toolz®

Smart Toolz is a comprehensive suite of software and hardware components that includes everything you need to develop contact and contactless memory smart card applications. The toolkit features the CardAppz® software, enabling marketing professionals to fully demonstrate a card's capabilities within a fully configurable card database and system. Also included is the Card Configuration Utility software, allowing designers to configure a card's parameters, load data to the card, and then communicate to the card through the supplied Winplex® middleware.

M.O.S.T. Toolz®

Designed specifically for multi-application and high security microprocessor-based smart card systems, the M.O.S.T. Toolz™ Microprocessor Card Development Kit features robust software and hardware components for rapid system development. M.O.S.T. Toolz gives you the power to deliver multiple applications and services on a single card, allowing for fast system design and easy updating without the need for card re-issuance.

Embedded Toolz™

The Embedded Toolz™ SDK includes all the components, firmware, and software you need to prototype your product's smart cards and embedded readers. The kit comes complete with a full schematic, driver software, and source code to allow easy interfacing with your host processor and system hardware. The supplied reader chip is compatible with the widest range of smart cards and protocols available. When combined with Smart Toolz or M.O.S.T. Toolz, reading and configuring your cards is a snap.

The Embedded Toolz kit contains ten smart cards, a prototyping reader board with card sockets and USB input cable, plus a CD

Typical Card System

Card Configuration

Card Configuration Utility™	Contactless and memory card tool
M.O.S.T. Toolz™	File creation utility software

APIs / Classes / Libraries

Reel**plex**®	POS system for ticketing and stored value
Print**plex**®	API for card encoding and issuance
Trak**plex**®	API for gaming and hospitality
Win**plex**®	General purpose API

Application Development

CardAppz®	Database demo software
Embedded Toolz™	Complete SDK for OEM designs

with sample code, schematics, manual, FAQ, and design tips.

Telecom Tools

CardLogix has you covered from SIM ToolKit configuration tools to complete Java SIM. Our goal is to make tools easy to use so your design is done right the first time and gets to market faster. We offer the best of breed tools for your development project. Some of them are even free, based on production commitments. Contact your CardLogix representative to get started today.

Middleware Support

- PCSC industry standard API
- All standardized PIV II Middleware meeting
- SP800-73-1 requirements
- ImageWare Systems Card Management Systems (CMS's)
- Intercede CMS
- MovieGold® API for Ticketing, Stored Value, and POS systems
- Printplex® API for Card Encoding and Issuance
- RSA PIV II Middleware and CMS
- SafeSign Middleware Cryptographic Service Provider (CSP)
- SafeSign Token Manager
- Worldwide Trust CMS's
- Winplex®, a general purpose API
- Trakplex® API for Gaming and Hospitality
- Charismathics CSP and PKI Middleware

Additional Card Options

- Lithographic card printing
- Guilloches and rosettes
- Microprinting
- Laser engraving
- Magnetic stripes (HiCo, LoCo, and colored)
- Card punching
- Optically Variable Devices (OVD's)
- Holograms and holomags
- Barcode printing
- Serialization and variable image printing
- Tamper-evident signature panels
- Ultraviolet inks
- Hidden images (Card Validator® graphics)
- Color shifting inks
- Colored interlayers

Additional Card Options (Continued)
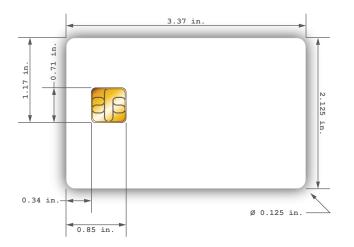
- OV dots
- Speed bumps

Applet Support

- PIV II for Identity systems
- SafeSign SSO
- ICAO passport applets
- Match on-card biometric applets
- One-time password and digital signatures for GSM phones
- SMS applets
- Emergency medical record system applet
- Navy Cash applet

Fulfillment & Packaging Options

- Letter and Z-fold mailing insertions
- Card wallets
- Tyvek card sleeves
- Card wallet books
- CD Connect cards
- Retail card hangers and blister packaging
- Customized shrink-wrap bundles
- Cards with peel-off coupons
- Tamper-evident packaging

Encoding Options

CardLogix can program your card orders, including magnetic stripe encoding and software loading. Fulfillment services are available for all orders (e.g. affixing cards to special carriers, such as promotional collateral). You can also order cards serialized and inserted into envelopes that can be stamped and mailed. Card lots can also be individually sleeved or shrink-wrapped for non-secure delivery.

Our Magnetic Stripe Cards can be encoded to the industry specifications set by leading manufacturers of automated banking equipment for tracks 1, 2, and 3.

CardLogix can load Java applets and all standard types of data, such as identification records, health histories, etc. For security applications, CardLogix can also load the card with digital certificates, transport keys, and encrypted keys.

CardLogix

Note: Drawings are 2:3 scale.

3.37 in.

1.17 in.

0.71 in.

2.125 in.

0.34 in.

0.85 in.

Ø 0.125 in.

0.984 in.

0.59 in.

0.118 in.

0.62 in.

0.22 in.

0.47 in.

Mag-Stripe Track 1 & 2

Mag-Stripe Track 3

2.37 in.

0.25 in.

1 in.

Ø 0.188 in.

0.125 in.

0.125 in.

0.562 in.

0.188 in.

0.562 in.

0.188 in.

2.95 in.

2.87 in.

0.24 in.

Signature Panel B

Signature Panel A

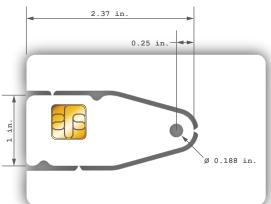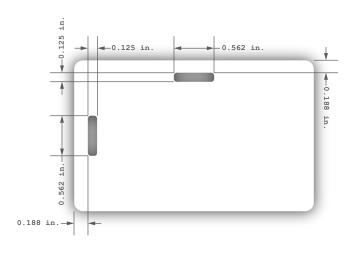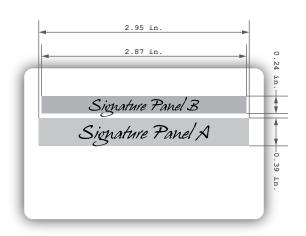0.39 in.

Additional smart card form factors include:
- USB jump drives
- E-passports
- SD cards
- miniSD cards
- Laundry tags

CardLogix offers cards in the following substrates:
- Commercial grade
- Biodegradable grade
- Precision identity grade
- Government certified grade
- Molded ABS (for SIM cards)

CardLogix Part Number	Series	User Memory	Security Algorithms	File Types Supported	Communication Protocols	Applications
				M.O.S.T. Card(R) Microprocessor (CPU) Smart Cards		
CLXSU064KC5	C5 Series - Contact	8 kilobytes	SHA-1, DES, 3DES, AES-128	MF, DF, EF-Transparent, Linear, Cyclical, APP, CHV, Purse	T=0	Token authentication, encrypted data storage, session key-based purse functions
CLXSU128KC5	C5 Series - Contact	16 kilobytes	SHA-1, DES, 3DES, AES-128	MF, DF, EF-Transparent, Linear, Cyclical, APP, CHV, Purse	T=0	Token authentication, encrypted data storage, session key-based purse functions
CLXSU256KC5	C5 Series - Contact	32 kilobytes	SHA-1, DES, 3DES, AES-128	MF, DF, EF-Transparent, Linear, Cyclical, APP, CHV, Purse	T=0	Token authentication, encrypted data storage, session key-based purse functions
CLXSU544KC5	C5 Series - Contact	68 kilobytes	SHA-1, DES, 3DES, AES-128	MF, DF, EF-Transparent, Extended, Linear, Cyclical, APP, CHV, Purse	T=0	Token authentication, encrypted data storage, session key-based purse functions
CLXSU64KC6-CL	C6 Series - Contactless	8 kilobytes	SHA-1, DES, 3DES, AES-128	MF, DF, EF-Transparent, Linear, Cyclical, APP, CHV, Purse, GPF	14443 Contactless	Access control, single sign-on, trasportation, contactless badging, voter IDs, closed-loop payments
CLXSU128KC6-CL	C6 Series - Contactless	16 kilobytes	SHA-1, DES, 3DES, AES-128	MF, DF, EF-Transparent, Linear, Cyclical, APP, CHV, Purse, GPF	14443 Contactless	Access control, single sign-on, trasportation, contactless badging, voter IDs, closed-loop payments
CLXSU256KC6-CL	C6 Series - Contactless	32 kilobytes	SHA-1, DES, 3DES, AES-128	MF, DF, EF-Transparent, Linear, Cyclical, APP, CHV, Purse, GPF	14443 Contactless	Access control, single sign-on, trasportation, contactless badging, voter IDs, closed-loop payments
CLXSU544KC6-CL	C6 Series - Contactless	68 kilobytes	SHA-1, DES, 3DES, AES-128	MF, DF, EF-Transparent, Extended, Linear, Cyclical, APP, CHV, Purse, GPF	14443 Contactless	Access control, single sign-on, trasportation, contactless badging, voter IDs, closed-loop payments
CLXSU640KC6-CL	C6 Series - Contactless	80 kilobytes	SHA-1, DES, 3DES, AES-128	MF, DF, EF-Transparent, Extended, Linear, Cyclical, APP, CHV, Purse, GPF	14443 Contactless	Access control, single sign-on, trasportation, contactless badging, voter IDs, closed-loop payments
CLXSU736KC6-CL	C6 Series - Contactless	92 kilobytes	SHA-1, DES, 3DES, AES-128	MF, DF, EF-Transparent, Extended, Linear, Cyclical, APP, CHV, Purse, GPF	14443 Contactless	Access control, single sign-on, trasportation, contactless badging, voter IDs, closed-loop payments
CLXSU064KC7	C7 Series - Contact	8 kilobytes	SHA-1, SHA-256, HMAC, DES, 3DES, AES-128, -192, -256	MF, DF, EF-Transparent, Linear, Cyclical, APP, CHV, Purse, GPF	T=0, T=1	National or Civil IDs, Driver's Licenses, Voter IDs, Employee Badges with Single Sign-On
CLXSU128KC7	C7 Series - Contact	16 kilobytes	SHA-1, SHA-256, HMAC, DES, 3DES, AES-128, -192, -256	MF, DF, EF-Transparent, Linear, Cyclical, APP, CHV, Purse, GPF	T=0, T=1	National or Civil IDs, Driver's Licenses, Voter IDs, Employee Badges with Single Sign-On
CLXSU256KC7	C7 Series - Contact	32 kilobytes	SHA-1, SHA-256, HMAC, DES, 3DES, AES-128, -192, -256	MF, DF, EF-Transparent, Linear, Cyclical, APP, CHV, Purse, GPF	T=0, T=1	National or Civil IDs, Driver's Licenses, Voter IDs, Employee Badges with Single Sign-On
CLXSU512KC7	C7 Series - Contact	64 kilobytes	SHA-1, SHA-256, HMAC, DES, 3DES, AES-128, -192, -256	MF, DF, EF-Transparent, Extended, Linear, Cyclical, APP, CHV, Purse, GPF	T=0, T=1	National or Civil IDs, Driver's Licenses, Voter IDs, Employee Badges with Single Sign-On
CLXSU640KC7	C7 Series - Contact	80 kilobytes	SHA-1, SHA-256, HMAC, DES, 3DES, AES-128, -192, -256	MF, DF, EF-Transparent, Extended, Linear, Cyclical, APP, CHV, Purse, GPF	T=0, T=1	National or Civil IDs, Driver's Licenses, Voter IDs, Employee Badges with Single Sign-On
CLXSU1020KC7	C7 Series - Contact	128 kilobytes	SHA-1, SHA-256, HMAC, DES, 3DES, AES-128, -192, -256	MF, DF, EF-Transparent, Extended, Linear, Cyclical, APP, CHV, Purse, GPF	T=0, T=1	National or Civil IDs, Driver's Licenses, Voter IDs, Employee Badges with Single Sign-On
CLXSU1150KC7	C7 Series - Contact	144 kilobytes	SHA-1, SHA-256, HMAC, DES, 3DES, AES-128, -192, -256	MF, DF, EF-Transparent, Extended, Linear, Cyclical, APP, CHV, Purse, GPF	T=0, T=1	National or Civil IDs, Driver's Licenses, Voter IDs, Employee Badges with Single Sign-On
CLXSU256KC8-CL	C8 Series - Contactless	32 kilobytes	SHA-1, SHA-256, HMAC, DES, 3DES, AES-128, -192, -257	MF, DF, EF-Transparent, Linear, Cyclical, APP, CHV, Purse, GPF	T=0, T=1	ID-1 ICAO certified Border Crossing Cards, Access Control, Single Sign-On, Healthcare IDs, Voter IDs, biometric identity
CLXSU512KC8-CL	C8 Series - Contactless	64 kilobytes	SHA-1, SHA-256, HMAC, DES, 3DES, AES-128, -192, -258	MF, DF, EF-Transparent, Extended, Linear, Cyclical, APP, CHV, Purse, GPF	T=0, T=1	ID-1 ICAO certified Border Crossing Cards, Access Control, Single Sign-On, Healthcare IDs, Voter IDs, biometric identity
CLXSU608KC8-CL	C8 Series - Contactless	76 kilobytes	SHA-1, SHA-256, HMAC, DES, 3DES, AES-128, -192, -259	MF, DF, EF-Transparent, Extended, Linear, Cyclical, APP, CHV, Purse, GPF	T=0, T=1	ID-1 ICAO certified Border Crossing Cards, Access Control, Single Sign-On, Healthcare IDs, Voter IDs, biometric identity

M.O.S.T. Card(R) Microprocessor (CPU) Smart Cards

CardLogix Part Number	Series	User Memory	Security Algorithms	File Types Supported	Communication Protocols	Applications
CLXSU1020KC8-CL	C8 Series - Contactless	128 kilobytes	SHA-1, SHA-256, HMAC, DES, 3DES, AES-128, -192, -260	MF, DF, EF-Transparent, Extended, Linear, Cyclical, APP, CHV, Purse, GPF	T=0, T=1	ID-1 ICAO certified Border Crossing Cards, Access Control, Single Sign-On, Healthcare IDs, Voter IDs, biometric identity
CLXSU1150KC8-CL	C8 Series - Contactless	144 kilobytes	SHA-1, SHA-256, HMAC, DES, 3DES, AES-128, -192, -261	MF, DF, EF-Transparent, Extended, Linear, Cyclical, APP, CHV, Purse, GPF	T=0, T=1	ID-1 ICAO certified Border Crossing Cards, Access Control, Single Sign-On, Healthcare IDs, Voter IDs, biometric identity
CLXSU1290KC8-CL	C8 Series - Contactless	162 kilobytes	SHA-1, SHA-256, HMAC, DES, 3DES, AES-128, -192, -262	MF, DF, EF-Transparent, Extended, Linear, Cyclical, APP, CHV, Purse, GPF	T=0, T=1	ID-1 ICAO certified Border Crossing Cards, Access Control, Single Sign-On, Healthcare IDs, Voter IDs, biometric identity
CLXSU256KC9-DI	C9 Series - Dual Interface	32 kilobytes	SHA-1, SHA-256, HMAC, DES, 3DES, AES-128, -192, -263	MF, DF, EF-Transparent, Extended, Linear, Cyclical, APP, CHV, Purse, GPF	T=0, T=1	IAM Logical access and physical access control cards, ID-1 ICAO certified Border Crossing Cards, Biometric Identity
CLXSA640KC9-DI	C9 Series - Dual Interface	80 kilobytes	SHA-1, SHA-256, HMAC, DES, 3DES, AES-128, -192, -264	MF, DF, EF-Transparent, Extended, Linear, Cyclical, APP, CHV, Purse, GPF	T=0, T=1	IAM Logical access and physical access control cards, ID-1 ICAO certified Border Crossing Cards, Biometric Identity
CLXSU1020KC9-DI	C9 Series - Dual Interface	128 kilobytes	SHA-1, SHA-256, HMAC, DES, 3DES, AES-128, -192, -265	MF, DF, EF-Transparent, Extended, Linear, Cyclical, APP, CHV, Purse, GPF	T=0, T=1	IAM Logical access and physical access control cards, ID-1 ICAO certified Border Crossing Cards, Biometric Identity
CLXSU1290KC9-DI	C9 Series - Dual Interface	162 kilobytes	SHA-1, SHA-256, HMAC, DES, 3DES, AES-128, -192, -266	MF, DF, EF-Transparent, Extended, Linear, Cyclical, APP, CHV, Purse, GPF	T=0, T=1	IAM Logical access and physical access control cards, ID-1 ICAO certified Border Crossing Cards, Biometric Identity

Credentsys(R) Java Cards

CardLogix Part Number	Type	User Memory	Java Version	Global Platform	Supported Algorithms	Communication Protocols	Applications
CLXSU576KJ6	Credentsys lite - Contact	72 kilobytes	2.2.1	2.1.1	SHA1-256, AES-128, MD5, DES, TDEA, RSA1024-2048	T=0, T=1	National ID programs, healthcare, informatics, driver licenses, voter registration, enterprise IDs
CLXSU576KJ7-PIV	Credentsys PIV - Contact	72 kilobytes	2.2.1	2.1.2	SHA1-256, AES-128, MD5, DES, TDEA, RSA1024-2049	T=0, T=2	National ID programs, healthcare, informatics, driver licenses, voter registration, enterprise IDs

Java Cards

CardLogix Part Number	MPN	User Memory	Operating System	Global Platform	Supported Algorithms	Communication Protocols	Applications
CLXSU320KD8	JCOS SLE 77CLFX2400P	40 kilobytes	2.2.1	2.1.1	DES, RSA, ECC, SHA-1	T=0	National ID programs, healthcare, informatics, driver licenses, voter registration, enterprise IDs
CLXSU640KM1	JCOP J2A080 v2.4.1 Rel 3	80 kilobytes	2.2.2	2.1.0	SHA1-256, AES128-256, DES, 3DES, RSA1024-2048, ECC-320	T=0, T=1	National ID programs, healthcare, informatics, driver licenses, voter registration, enterprise IDs
CLXSU640KM2	JCOP J2A081 v2.4.1 Rel 3	80 kilobytes	2.2.2	2.1.1	SHA1-256, AES128-256, DES, 3DES, RSA1024-2048, ECC-320	T=0, T=1	National ID programs, healthcare, informatics, driver licenses, voter registration, enterprise IDs
CLXSU1150KM4	JCOP J2E145 v2.4.2 R3	144 kilobytes	3.0.1	2.2.1	SHA1-256, AES128-256, DES, 3DES, RSA1024-2048, ECC-320	T=0, T=1	National ID programs, healthcare, informatics, driver licenses, voter registration, enterprise IDs
CLXSU1200KD2	JTOP SLJ 52GCA150CL	150 kilobytes	3.0.4	2.2.1	SHA1-512, AES128-256, DES, 3DES, RSA1024-2048, ECC-521	T=0, T=1	National ID programs, healthcare, informatics, driver licenses, voter registration, enterprise IDs

Memory Smart Cards

CardLogix Part Number	OEM Chip Part Number	User Memory	Type	Security Features	Supported Readers*	Communication Protocols	Applications
CLXSA002KA2	AT24C02C	2 kilobits	Straight Memory	Host-based only	Omnikey 3121, 5121, 5321 & Identiv SCR3310	I2C	Small record storage, loyalty, conventions, digital receipts
CLXSA002KE2	24LC02SC	2 kilobits	Straight Memory	Host-based only	Omnikey 3121, 5121, 5321 & Identiv SCR3310	I2C	Small record storage, loyalty, conventions, digital receipts
CLXSA016KA8	AT24C16C	16 kilobits	Straight Memory	Host-based only	Omnikey 3121, 5121, 5321 & Identiv SCR3310	I2C	Data / record storage, health informatics, loyalty, conventions, digital receipts
CLXSA016KE8	24LC16SC	16 kilobits	Straight Memory	Host-based only	Omnikey 3121, 5121, 5321 & Identiv SCR3310	I2C	Data / record storage, health informatics, loyalty, conventions, digital receipts
CLXSA064KA3	AT24C64D	64 kilobits	Straight Memory	Host-based only	Omnikey 3121, 5121, 5321 & Identiv SCR3310	I2C	Data / record storage, health informatics, loyalty, conventions, digital receipts
CLXSA064KE3	24LC64SC	64 kilobits	Straight Memory	Host-based only	Omnikey 3121, 5121, 5321 & Identiv SCR3310	I2C	Data / record storage, health informatics, loyalty, conventions, digital receipts
CLXSA128KA4	AT24C128C	128 kilobits	Straight Memory	Host-based only	Omnikey 3121, 5121, 5321 & Identiv SCR3310	I2C	Data / record storage, health informatics, loyalty, conventions, digital receipts
CLXSA128KE4	24LC128SC	128 kilobits	Straight Memory	Host-based only	Omnikey 3121, 5121, 5321 & Identiv SCR3310	I2C	Data / record storage, health informatics, loyalty, conventions, digital receipts
CLXSA256KA5	AT24C256C	256 kilobits	Straight Memory	Host-based only	Omnikey 3121, 5121, 5321 & Identiv SCR3310	I2C	Data / record storage, health informatics, loyalty, conventions, digital receipts
CLXSA256KE5	24LC256SC	256 kilobits	Straight Memory	Host-based only	Omnikey 3121, 5121, 5321 & Identiv SCR3310	I2C	Data / record storage, health informatics, loyalty, conventions, digital receipts
CLXSA512KA10	AT24C512C	512 kilobits	Straight Memory	Host-based only	Omnikey 3121, 5121, 5321 & Identiv SCR3310	I2C	Data / record storage, health informatics, loyalty, conventions, digital receipts
CLXSA512KE10	24LC512SC	512 kilobits	Straight Memory	Host-based only	Omnikey 3121, 5121, 5321 & Identiv SCR3310	I2C	Data / record storage, health informatics, loyalty, conventions, digital receipts
CLXSA002KK0	AT88SC0204C	256 bytes, 4 sectors	CryptoMemory	Read / write password protection	Omnikey 3121, 5121, 5321 & Identiv SCR3310	I2C & T=0	Access control, stored value, data / record storage, health informatics, loyalty
CLXSA001KK2	AT88SC102-09ET19	1 kilobyte, 2 sectors	Protected Memory	Read / write password protection	AMC 152 & ACS ACR38	7816 Synchronous	Access control, stored value, data / record storage, health informatics, loyalty
CLXSA002KK3	AT88SC153-09ET00	1.5 kilobytes, 3 sectors	Protected Memory	Read / write password protection	AMC 152 & ACS ACR48	7816 Synchronous	Access control, stored value, data / record storage, health informatics, loyalty
CLXSA004KK4	AT88SC0404C	512 bytes, 4 sectors	CryptoMemory	Read / write password protection	Omnikey 3121, 5121, 5321 & Identiv SCR3310	I2C & T=0	Access control, stored value, data / record storage, health informatics, loyalty
CLXSA008KK5	AT88SC0808C	1 kilobyte, 8 sectors	CryptoMemory	Read / write password protection	Omnikey 3121, 5121, 5321 & Identiv SCR3310	I2C & T=0	Access control, stored value, data / record storage, health informatics, loyalty
CLXSA016KK6	AT88SC1616C	2 kilobytes, 16 sectors	CryptoMemory	Read / write password protection	Omnikey 3121, 5121, 5321 & Identiv SCR3310	I2C & T=0	Access control, stored value, data / record storage, health informatics, loyalty
CLXSA064KK7	AT88SC6416C	8 kilobytes, 16 sectors	CryptoMemory	Read / write password protection	Omnikey 3121, 5121, 5321 & Identiv SCR3310	I2C & T=0	Access control, stored value, data / record storage, health informatics, loyalty
CLXSA128KK8	AT88SC12816C	16 kilobytes, 16 sectors	CryptoMemory	Read / write password protection	Omnikey 3121, 5121, 5321 & Identiv SCR3310	I2C & T=0	Access control, stored value, data / record storage, health informatics, loyalty
CLXSA256KK9	AT88SC25616C	32 kilobytes, 16 sectors	CryptoMemory	Read / write password protection	Omnikey 3121, 5121, 5321 & Identiv SCR3310	I2C & T=0	Access control, stored value, data / record storage, health informatics, loyalty
CLXSA001KL1	AT88SC0104C	128 bytes, 4 sectors	CryptoMemory	Read / write password protection	Omnikey 3121, 5121, 5321 & Identiv SCR3310	I2C & T=0	Access control, stored value, data / record storage, health informatics, loyalty
CLXSA001KL2	AT88SC0104CA	128 bytes, 4 sectors	CryptoMemory	Read / write password protection	Omnikey 3121, 5121, 5321 & Identiv SCR3310	I2C & T=0	Access control, stored value, data / record storage, health informatics, loyalty

* Winplex supported reader brands: ACS, Cardcom, ID Tech, Omnikey, SCM (Identiv)

MIFARE Contactless Cards

CardLogix Part Number	OEM Chip Part Number	User Memory	Type	Security Features	Communication Protocols	Communication Protocols
CLXRN008KB9-C-4ID	MIFARE Classic 1K (4UID) Infineon	1 kilobyte	Protected Memory	Read / write password protection, Crypto-1	proprietary protocol compliant to parts 1-3 of ISO/IEC 14443 Type A	Public transport, access management, employee cards and on campuses.
CLXRN008KN1-CS-4ID	MIFARE Classic 1k (4UID) NXP	1 kilobyte	Protected Memory	Read / write password protection, Crypto-1	proprietary protocol compliant to parts 1-3 of ISO/IEC 14443 Type A	Public transport, access management, employee cards and on campuses.
CLXRN008KN1-CS-7ID	MIFARE Classic 1k (7UID) NXP	1 kilobyte	Protected Memory	Read / write password protection, Crypto-1	proprietary protocol compliant to parts 1-3 of ISO/IEC 14443 Type A	Public transport, access management, employee cards and on campuses.
CLXRN032KN1-CS-7ID	MIFARE Classic 4k -(7UID) NXP	4 kilobytes	Protected Memory	Read / write password protection, Crypto-1	proprietary protocol compliant to parts 1-3 of ISO/IEC 14443 Type A	Public transport, access management, employee cards and on campuses.
CLXRN008KN2-CS-EV1-4ID	MIFARE Classic EV1 1k (4UID)	1 kilobyte	Protected Memory	Read / write password protection, Crypto-1	proprietary protocol compliant to parts 1-3 of ISO/IEC 14443 Type A	Public transport, access management, employee cards and on campuses.
CLXRN512UN3-UL	MIFARE Ultralight	128 bytes	Protected Memory	Read / write password protection	proprietary protocol compliant to parts 1-3 of ISO/IEC 14443 Type A	Public transport, access management, employee cards and on campuses.
CLXRN512UN3-ULC	MIFARE Ultralight C	144 bytes	Protected Memory	Read / write password protection, TDES	proprietary protocol compliant to parts 1-3 of ISO/IEC 14443 Type A	Public transport, access management, employee cards and on campuses.
CLXRN032KN8-PS-7ID	MIFARE PLUS X 4K (7UID)	4 kilobytes	Protected Memory	Read / write password protection, AES-128, Crypto-1	proprietary protocol compliant to parts 1-3 of ISO/IEC 14443 Type A	Public transport, access management, employee cards and on campuses.
CLXRN032KN9-P-EV1-7ID	MIFARE Plus EV1 4K (7UID)	4 kilobytes	Protected Memory	Read / write password protection, AES-128, Crypto-1	proprietary protocol compliant to parts 1-3 of ISO/IEC 14443 Type A	Public transport, access management, employee cards and on campuses.
CLXRN064KN5-DF-EV1	MIFARE DESFire EV1 8K	8 kilobytes	Microprocessor Smart Card	DES, 3DES, AES-128	14443 Contactless	Identity, access control, loyalty, and micropayment applications, as well as in transport schemes
CLXRN064KN6-DF-EV2	MIFARE DESFire EV2 8K	8 kilobytes	Microprocessor Smart Card	DES, 3DES, AES-128	14443 Contactless	Identity, access control, loyalty, and micropayment applications, as well as in transport schemes

SAM Cards

CardLogix Part Number	OEM Chip Part Number	User Memory	Type	Security Features	Communication Protocols	Applications
CLXSU640KM9	P5DF081	80 kilobytes	MIFARE SAM AV2	SHA1-256, AES128-192, TDES, RSA 2048, Crypto-1	T=1	Access control, loyalty, payment

Quality

CardLogix Corporation is absolutely committed to providing defect-free products and services to our customers, in partnership with equally committed integration partners and authorized resellers.

- California C Corporation
- CA Resale# SREAA 97-124323
- D&B# 867418899
- SIC Codes# 3577, 3089, 5162
- UNSPCSC Code# 32101617
- Harmonized Code# 8542.10.0000
- NAICS Codes# 334119, 326199, 334418, 334519, 42261, 51421
- CAGE Code# 1KV39
- Congressional District# 47