CRESCENDO™

HID

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Brian Jones
Emp.# 5643-44

ACCESS secure.

HID

CRESCENDO™

Crescendo is a series of highly secure, off-the-shelf smart cards designed to provide out-of-the-box, standards-compliant support for thousands of logical access applications.

Crescendo is a multi-technology smart card.
Crescendo is a credit card-sized card that enables logical and physical access control, also serving as an employee ID badge.

An embedded contact smart chip is used for logical access control. To meet the needs of current physical access control customers, Crescendo can be customized with the "physical access control" technologies you choose (i.e., HID or Indala® proximity, iCLASS®, MIFARE®, and others).

Crescendo smart cards require no additional per-seat middleware license.
Using a powerful contact smart chip with cryptographic co-processor, Crescendo is supplied pre-initialized with the required on-card software and includes all required drivers and middleware. This equates to a high performance, cost-effective solution.

Within HID's Trusted Identity Platform™
Crescendo combines technologies, services, and know-how with unique attributes to deliver a trusted solution for secure identity-related applications.

Crescendo cards are as simple to install and use as any Windows® peripheral. Crescendo has completed the Microsoft® certification program for smart card minidrivers, ensuring a seamless experience for the user.

Crescendo is Windows® compatible.
Crescendo series smart cards are fully compatible with the Microsoft® Windows® Smart Card Framework (WSF) and support Microsoft® applications such as Windows® Domain Log-On, VPN, Outlook®, secure Web access, and wireless LAN authentication.

Crescendo is supported by the Microsoft® Identity Lifecycle Manager 2007, dramatically simplifying the deployment, management, and auditing of smart cards used for logical access control applications.

Crescendo supports security applications from other vendors including:

▶ Single sign-on
▶ Pre-boot authentication
▶ Disk encryption
▶ Digital signatures

Designed for Microsoft® Windows®XP

Designed for Microsoft® Windows Server™ 2003

Works with Windows Vista™

http://www.asi.ind.in

Choosing a smart card for logical access has never been easier or more economical!
Crescendo highly secure, off-the-shelf smart cards provide out-of-the-box, standards-compliant support for thousands of logical access applications. By incorporating HID's industry standard proximity and iCLASS® or MIFARE® technologies, Crescendo is a single card that can be easily deployed for both logical and physical access control use.

Choose which Crescendo series smart card best meets your needs.

OS Support	C200[12]	C700
Windows Vista™	Yes	Yes
Windows®XP	Yes	Yes
Windows® 2000 / Windows® Server 2003	Yes	Yes
Windows® CE / Mobile	No	Yes[1]
Mac® OS X, Linux®, Solaris, Unix	No	Yes[1]

Standards Support	C200[12]	C700
ISO 7816 1-4	Yes	Yes
PCSC / CCID	Yes	Yes
CryptoAPI / MSCAPI	Yes	Yes
PKCS11	No	Yes
Base CSP	Yes	No
X.509 v3, PKCS 12, PFX, DER	Yes	Yes

Contact Smart Chip	C200[12]	C700
Java® Card OS v2.2.1	Yes	Yes
Open Platform 2.1.1	Yes	Yes
Crypto Co-Processor	Yes	Yes
Number of 1024 Bit Digital Certificates[2]	16	21
Number of 2048 Bit Digital Certificates[2]	12	15
EEPROM Storage	72K	72K
EEPROM Data Retention	20 Years	20 Years

Contactless Technologies[3]	C200[12]	C700
iCLASS® Prox[4]	Yes	Yes
iCLASS® Prox[4] with Magnetic Stripe[5]	Yes	Yes
MIFARE®	Yes	Yes
Other Contactless and Multi-Technology Card Options Available on Request[6]	Yes	Yes

Microsoft® Applications	C200[12]	C700
Windows® Domain Log-On	Yes	Yes
Remote Desktop / RDP	Yes[7]	Yes[7]
Microsoft® Identity Lifecycle Manager 2007	Yes	Yes
Outlook	Yes	Yes
Encrypted File System	Yes	Yes
Internet Explorer	Yes	Yes
Windows® Certificate Authority	Yes	Yes

Other Applications	C200[12]	C700
Single Sign-On[8]	Yes[9]	Yes
Pre-Boot Authentication[10]	No	Yes
Firefox®, Netscape®	No	Yes
VPN (SSL / IPSEC)[11]	Yes	Yes
Match-on-Card Fingerprint	No	Yes[1]
Citrix™	Yes	Yes
Smart Card Management Utility	No	Yes

Microsoft® Identity Lifecycle Manager 2007

[1] May require an additional software license.

[2] Maximum number of certificates.

[3] All contactless technology cards include a contact smart chip with specifications per those shown under the "Contact Smart Chip" heading in this chart. The three cards shown are available off-the-shelf.

[4] The iCLASS® portion of the card is a 16K bit (2K Bytes) contactless smart chip with either 2 or 16 application areas.

[5] The magnetic stripe is ABA standard 3 track, high coercivity (4000 Oe), ISO 7811-6 compliant. Custom magnetic stripes are available; consult factory.

[6] Consult factory for other contactless card types and multi-technology card types that are available by custom order.

[7] Requires Windows Vista™ or Windows®XP.

[8] Including ActivIdentity® SecureLogin SSO, Bioscrypt VeriSoft Access Manager,™ CA eTrust® SSO, IBM Tivoli® Access Manager, IMPRIVATA® ONESIGN™ Open Domain Sphinx, Oracle® Enterprise Single Sign-On, Passlogix v-GO,® RSA® Sign-On Manager, and Softex OmniPass.

[9] Authentication only; no data storage on card.

[10] Including SafeBoot® WinMagic SecurDoc™ and Utimaco®

[11] Including Microsoft®NCP, Cisco Systems® Check Point®and SafeNet, Inc.

[12] The Crescendo C200 credential solution has completed the Microsoft® certification program for smart card minidrivers.

Crescendo™ Secure Custom Card Solutions

Issue Crescendo Smart Cards Conveniently and Securely!

For convenient card issuance, have HID's ID Service Bureau personalize each card with your corporate image and required ID badge information. For greater security, economically add custom anti-counterfeiting features. Only HID can provide one-stop shopping for your complete card customization needs!

Use Crescendo Cards to Enhance Corporate Identity and Brand Recognition

No one wants to wear or present a plain, boring, unattractive badge. This card represents the user's personal image as well as the corporate image. Incorporate visual features such as a photo ID, name, or department color code to visibly identify individuals. High resolution printing and special inks are all available for your card design. A well-designed card demonstrates your company's commitment to security.

Use Anti-Counterfeiting Features on the Outside of Your Crescendo Smart Cards

Enhance the security on the outside of your card. Holograms have been required by MasterCard® and Visa® for years. Passports, immigration cards, and currency also use holograms and other anti-counterfeiting features. Anti-counterfeiting options include:

- Surface Holograms
- Embedded Holograms
- Micro-Fine Text
- Guilloche Images
- Holographic Overlaminates
- Anti-Scan and Anti-Copy Technologies
- Ultra-Violet and Infrared Fluorescing Inks

Use HID's ID Badge Service Bureau to Create Your New Badges

Economically create new badges that incorporate the technologies you need with the graphics and anti-counterfeiting features you choose.

HID's ID Badge Service:

- Can create your ID badge layout; no in-house graphics capabilities or equipment is required.

- Can use an existing photo ID database to create new, personalized ID badges.

- Eliminates costs associated with cards destroyed or disfigured during the badging process.

- Reduces overall costs associated with ID badge production. Wear and tear on in-house badge production equipment is minimized.

- Enables the security department to manage security, not ID badge production.

http://www.asi.ind.in

There are reasons for these security features. The same reasons apply to your ID program.

Crescendo™ Smart Card Reader

▶ **Optimized** for use with Crescendo series smart cards.

▶ **Sets a market performance standard** by supporting reader-to-card data transmission rates of up to 420 KBits per second.

▶ **Supports standard CCID[1] driver** for easy installation (plug and play).

▶ **Specially designed robust housing** for horizontal or vertical placement, adhesion to a PC monitor or desk, etc.

▶ **Offers a long life** (100,000 insertions) backed by a two-year warranty.

Smart Powered by
OK OMNIKEY

Vertical Mount with Base

Horizontal Mount

Adhesion with No Base

Host Interface

USB 2.0 (also compliant with USB 1.1)

CCID[1]

Power Supply: Bus Powered

Smart Card Interface

Compliant with ISO 7816

Card Size: ID-1 (Full Size)

High Performance Smart Card Interface (up to 420 Kbps)

Smart Card Clock Frequency (up to 8 MHz)

Supplies 60 mA Current to Power the Smart Card

Smart Card Movement Detection with Auto Power-Off

Short Circuit and Thermal Protection

Compliance

Microsoft® WHQL[2] Certified

ISO 7816

USB 2.0 (also compliant with USB 1.1)

API

PC/SC Driver

PC/SC Driver Support

Windows Vista™

Windows® XP

Windows® 2000

Windows® ME

Windows® 98

Windows® CE 3.0 / CE.NET (depending on hardware)

Windows® NT 4.0

Linux®

Mac® OS X

Hardware Specifications

Color: Two-Tone Gray (Standard)

Dimensions: 3.15″ x 2.64″ x 1.1″ (80 mm x 67 mm x 28 mm)

Weight (Includes Standard Base): 6.6 ounces (187 grams)

Operating Temperature: 32° – 131° F (10° – 55° C)

Operating Humidity: 10%-90% rH

Composition: ABS

Connector Cable: 70.9″ (180 cm)

Durability: 100,000 Insertions

Meantime Between Failure (MTBF): 500,000 Hours

Other Features

Status Indicator: Dual Color LED

Light Vertical Base and Attachment Pad for Mounting the Reader (i.e., on a Monitor)

Safety and Environmental Standards

CE

FCC

UL

Options:

Heavy Base (10.581 ounces / 300 grams) or Jumbo Base (15.131 ounces / 429 grams) Supporting Both Horizontal and Vertical Card Insertion

Customer-Specific Logos and/or Label on Request

Note: Should you require a PCMCIA or ExpressCard smart card reader, please inquire. HID can assist.

Reader with Standard Light Base: Part Number R31210126-01
Reader with Heavy Base: Part Number R31210126-02.

[1] Chip Card Interface Device   [2] Windows® Hardware Quality Labs

Designed for Microsoft® Windows® XP Windows® 2000

Mac

Logical Access Implementation Made Simple

Crescendo™

is a single card that can be easily deployed for logical and physical access control and other secure identity-related applications.

1 Start with a base card.

2 Add graphics, a photo ID, and an anti-counterfeiting element.

3 Issue highly secure custom cards for logical and physical access control.

Request a Crescendo Evaluation Kit.

To learn more, visit

hidcorp.com/crescendo.

4 Use your Crescendo card for other applications:

- ▶ Biometrics
- ▶ Time and Attendance
- ▶ Cashless Payment / eCash
- ▶ Handheld / Mobile Verification
- ▶ Manufacturing Control
- ▶ Many Others

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ACCESS experience.

HID Global Offices:

Corporate North America
9292 Jeronimo Road
Irvine, CA 92618-1905
U.S.A.
Phone: 1 800 237 7769
Phone: +1 949 598 1600
Fax: +1 949 598 1690

Asia Pacific
19/F 625 King's Road
North Point
Island East
Hong Kong
Phone: +852 3160 9800
Fax: +852 3160 4809

Latin America
Circunvalacion Ote. #201 B
Despacho 2
Col. Jardines del Moral
Leon 37160, Gto.
Mexico
Phone: +52 477 779 1492
Fax: +52 477 779 1493

Europe, Middle East & Africa
Homefield Road
Haverhill, Suffolk
CB9 8QP
England
Phone: +44 (0) 1440 714 850
Fax: +44 (0) 1440 714 840

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