



# COLUMBO

**Compact, Durable FBI Certified PIV  
FAP 30 Single-Print Scanner**

- Automatic Spoof Rejection
- Software-Based Autodetect



# COLUMBO

Embedded and standalone versions



Intuitive, ergonomic,  
lightweight

Built for mobile and  
desktop applications

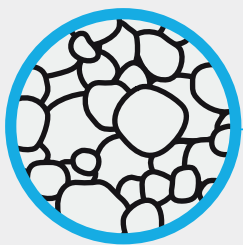
Compact PIV certified  
single-finger scanner

## COLUMBO DESKTOP

Columbo sets the standard for fast, compact, FBI PIV single-print sensors. This FAP 30 scanner delivers exceptional quality and durability along with greater accuracy than FAP 10 or FAP 20 units, yet does so in a thin, lightweight form factor. Columbo sensors, whether standalone or embedded, require very little power to operate. Their low maintenance design accurately scans old or damaged fingers and delivers reliable results even under extreme environmental conditions. Built for high-volume environments, Columbo also features a comprehensive software development kit (SDK) to streamline application integration.

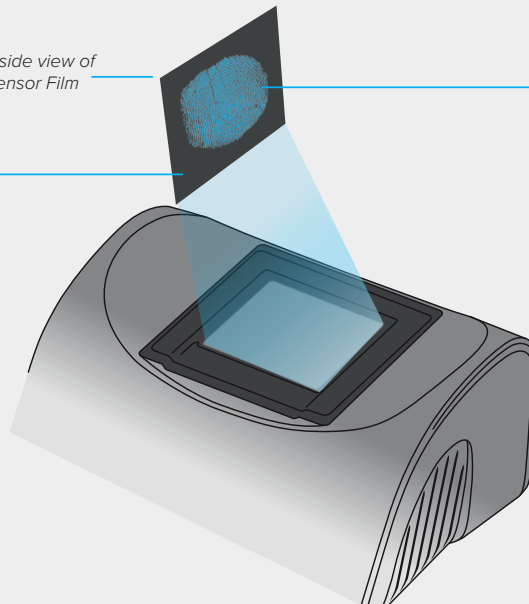
## LES Light Emitting Sensor Technology

Integrated Biometrics' scanners use our patented light-emitting sensor (LES) technology to deliver fixed and mobile FBI certified fingerprint imaging in an exceptionally durable, lightweight scanner.



LES film contains luminescent phosphor microparticles that respond only to human fingers when they touch the film

Underside view of  
LES Sensor Film



A CMOS camera captures the glow from the phosphor particles, producing a high-resolution fingerprint image

LES Phosphor Particle	•	13-32 $\mu\text{m}$
Human Hair	•	50-70 $\mu\text{m}$
Fine Beach Sand	•	90 $\mu\text{m}$

# FEATURES & BENEFITS

## Faster

- Rapid dry finger capture
- No need to clean latent prints in high-volume situations
- Easy integration via single SDK for all Integrated Biometrics FBI-certified products

## Better

- Unaffected by extreme temperatures, direct sunlight, or bright artificial lights
- Compact, lightweight, and rugged
- Rejects common spoofing attacks
- Emits no bright lights during scans
- Meets or exceeds US military durability specifications

## Smarter

- Competitive pricing
- Extremely low power consumption
- Eliminates consumables (silicone membranes or cleaning tape)
- Lower maintenance costs

## Hardware-based Automatic Spoof Rejection

IB's LES film recognizes real versus manufactured fingerprints. LES-based scanners automatically reject fingerprints based on silicone, glue, rubber, and other common spoofing materials.

## Two options for PKCS (Public Key Cryptology Standard)

PKCS – Elliptical Curve NIST P-521 or RSA 2048;  
AES-256, TRNG - NIST SP-800-90 A, B, C; Optional  
SHA-256, HMAC, MAC

## Software-Based Autodetect

IB's LES technology automatically detects the finger capture that generates the highest quality image without user intervention. Application developers enable this feature through the IB's software development kit (SDK).

# AVAILABLE VERSIONS

## Product

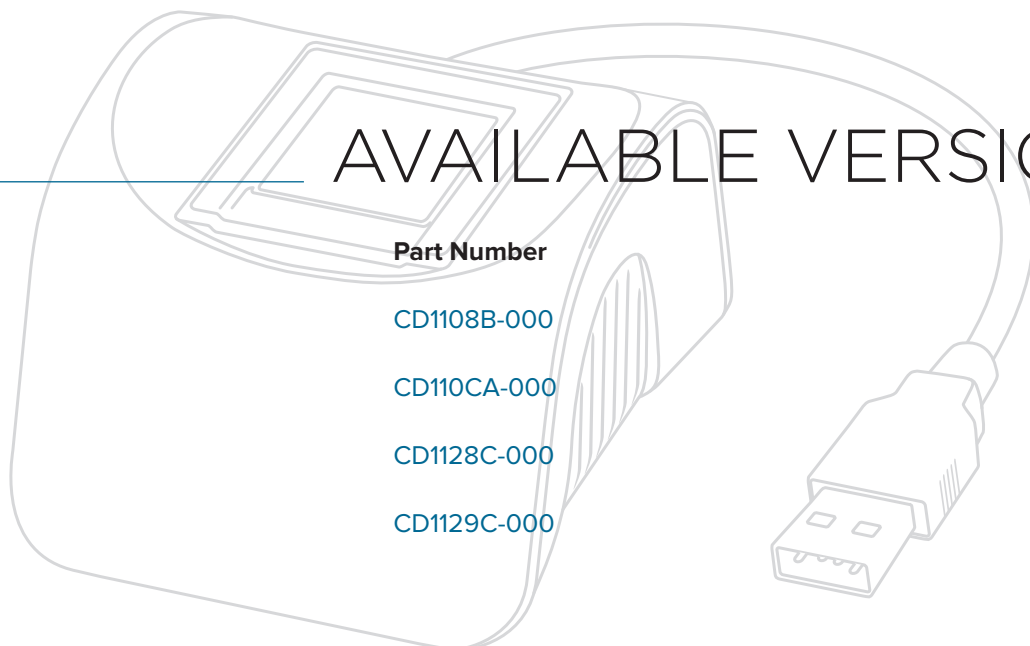
- Columbo Desktop

## Part Number

- CD1108B-000
- CD110CA-000
- CD1128C-000
- CD1129C-000

## Description

- 8" Micro B
- 58" USB A
- 8" USB C
- 24" USB C



## Images & Capture

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### Sensor Type

Light-emitting sensor (LES) CMOS CIS camera

### Resolution

500 PPI

### Gray Scale

256 grayscale dynamic range

### Image Size

400 W x 500 H pixels

### Supported Image Formats

RAW, JPEG2000, BMP, PNG, WSQ

### FBI Certification / Image Certifications

PIV 071006, FIPS 201, FAP 30 /  
Certified to Mobile ID Requirements

### Speed

Min frame rate > 8 FPS

### API Interface

Single-finger flat,  
Multi-device / multi-thread support

## Weight & Dimensions

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### Product Weight

170 grams / 6.00 oz | OEM <70 grams

### Platen Size

20.32mm x 25.4mm / 0.8" x 1.0"

### Sensing Area

20.32mm x 25.4mm / 0.8" x 1.0"

### Scanner Assembly Dimensions

75mm x 66mm x 48mm / 2.95" x 2.6" x 1.89"  
OEM 46.5mm x 39mm x 27.5mm / 1.83" x 1.53" x 1.08"

## Power & Connectors

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### Interface

USB 2.0, Micro USB and USB C; OEM: Molex

### Power Source

USB Host

### USB Power Requirement / Consumption

4.4 to 5.25V, full scanning <115ma, standby <50 ma

## Conformance & Certifications

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### USB Certification

USB-IF USB.ORG

### FCC/CE Conformance

FCC Part 15 (per ANSI C62.4:2003) Class A; CSA ICES-003  
Class A; CE Emissions: EN 55022:2006 Class A;  
CE Immunity: EN 55024:1998/A1:2001/A2:2003, IEC 61000-4-2

### Air Discharge / Contact Discharge

In compliance with IEC 61000-4-2

### Equipment Safety

IEC 60950-1

### Hazardous Material RoHS Certified

RoHS directive 2002/95/EC

### Vibration Test

Per Mil-STD-810F (Method 514.5), Category 24, Fig. 514.5C-17

## Temperatures & Humidity

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### Operating Temperature

-10°C ~ +55°C / 14°F ~ 131°F

### Humidity

20~95% RH < 40°C (non-condensing)

### Storage Temperature

-30°C ~ +80°C / -22°F ~ 176°F

## Surfaces & Systems

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### Ingress Protection / Water / Dust

Desktop IP65 sealed bezel to scanning surface  
OEM IP65

### Surface Durability

MIL-C-675c 4.5010, MIL-STD-810F

### Surface Resistance / Allowable Cleaning Chemicals

Visit <https://integratedbiometrics.com/cleaning/>

### OS Support

Windows Desktop 32/64 bit (7, 8, 10), Windows Server, Linux,  
Android 4.0+, Java

## Warranty

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1 year hardware warranty  
(extended warranty available upon request)

