

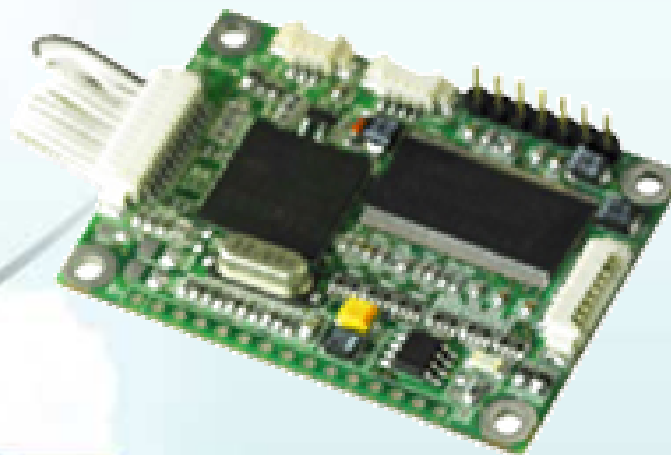


BIOCN
深安指纹

指纹识别 OEM 模块 FM-20FP

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The Number 1 Fingerprint Security Company
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COMMUNITY

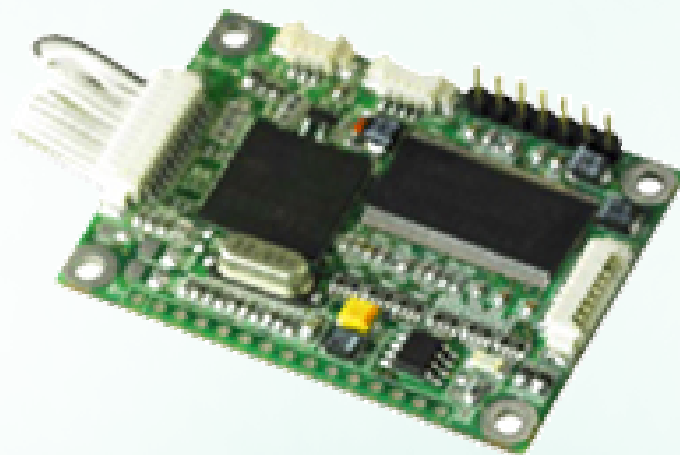
1. 指纹识别模块
2. 主要特征
3. 产品详细资料
4. 指纹采集器类型和特征及优势
5. 指纹识别模块学习测试套件 (FM EV-KIT)
6. 学习测试包产品详细资料
7. 订单信息
8. 产品优势

更详细资料请联系深安公司，业务热线：**400-6262-389**

1. Fingerprint Module?

- 指纹处理板：采集、保存、验证指纹特征信息。
- 提供发送简单命令和接收信息回馈内部接口，使用串口通讯。

指纹处理板



活体
指纹
检测

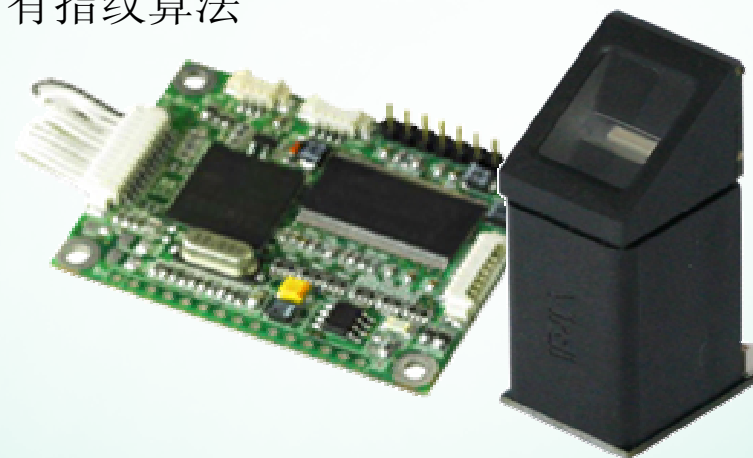
指纹传感器



2. 主要特征

2-1. 主要特征

- 500DPI坚硬持久的光学指纹传感器
- 强大、灵敏的活体指纹侦测
- 保存最多达到8000个日志数据和8000个指纹特征模板。
- 支持多种通讯接口
- 每个人最多可以采集5个指纹
- 采集、删除、修改指纹模板
- 上传/下载指纹数据
- 提供快速精确的1:1 指纹验证和 1:N 指纹识别的专有指纹算法
- FRR (拒真率): $< 0.1\%$, FAR (认假率): 0.001%



2. 主要特征

2-2. 产品优势

- 有非排他性协议许可的光学传感器专利技术，（美国专利号：US6, 324, 020）
- 从标准型到紧凑型，有各种类型的指纹传感器可以选择
- 灵敏的、强有效的活体指纹侦测技术（辨别出假指纹）
- 支持 国际标准化组织“ISO 19794-2 指纹特征数据” 的国际标准
- 支持 ‘FBI’ 和 WSQ标准的图像压缩
- 多年本国市场经验和超过70个国家和地区的市场经验证明了指纹识别模块高度可靠性稳定性。指纹采集器达到零返修。



3. 产品详细资料

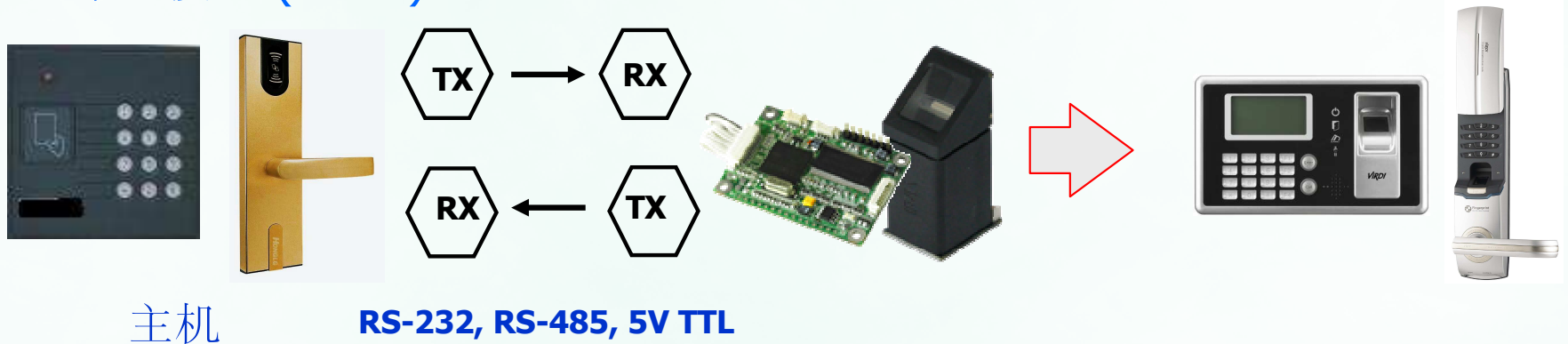
3-2. 光学传感器说明

	VIRDI FOS01	VIRDI FOS02	VIRDI FOS03
光学格式	1/5"	1/5"	1/5"
采集面积	15.0 x 18.0 mm	15.0 x 17.0 mm 16.0 x 19.0 mm (可选)	15.0 x 17.0 mm
像素阵列	CIF	CIF	CIF
分辨率	500dpi	500dpi	500dpi
采集方式	自动感应	自动感应	自动感应
LFD (活体指纹侦测)	是	是	是
尺寸 (L x D x H)	21 x 26 x 60 mm	21 x 23 x 53 mm	21 x 26 x 43 mm
图片			 <i>The most compact optical sensor in the world</i>

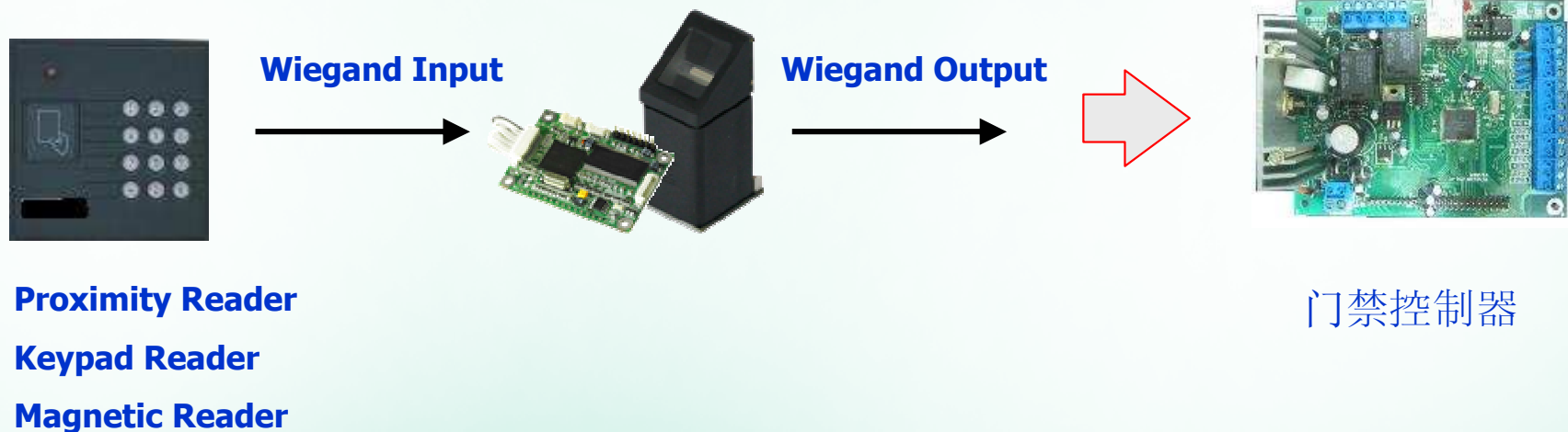
3. 产品详细资料

3-3. 各种通讯接口 (RS-232, RS-485, TTL串口, 韦根)

- 串口接口 (UART)



- 韦根接口

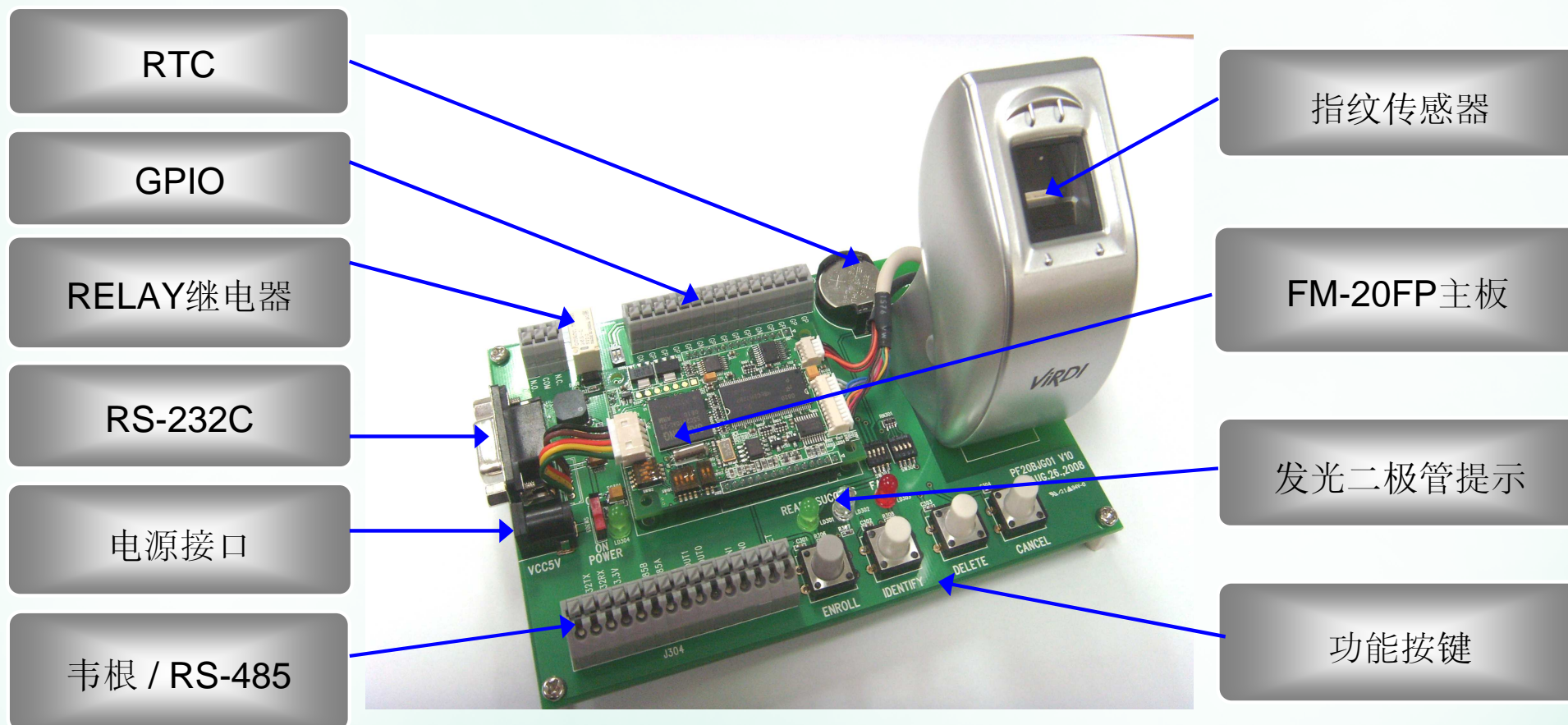


4. 指纹传感器托架类型

		V-FOS02的托架 (建议使用)	
		传感器盖子	传感器支架
		 AC-2000(FOS02C)	 AC-2000(FOS02H)
		 V-4000(FOS02C)	 V-4000(FOS02H)

5. 指纹模块评估套件 (FM-EVKIT)

指纹模块评估套件是为了容易评估和测试我们的指纹模块和传感器。



6. 指纹模块评估包 (FM-EVKIT) 产品介绍

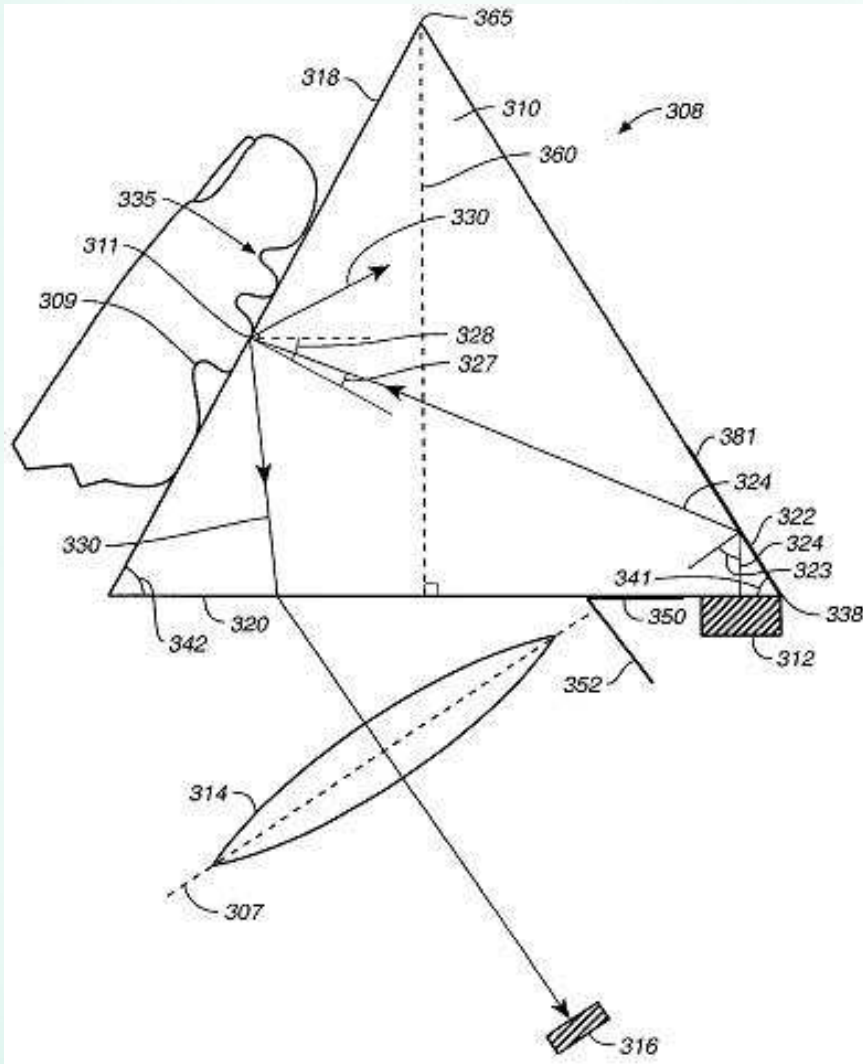
1. 指纹模块 (FM-20FP & FOS02)
 - 指纹处理板 (FM-20FP)
 - 指纹采集器 (FOS2)
2. 指纹模块评估板包括
 - 功能按键 4个, LED 个, 蜂鸣器 1个, RS-232口 (电脑通讯接口),
 - RS-485, 韦根, 继电器, RTC, GPIO
3. 程序工具
 - Test Program 测试程序
 - Command Line Program 命令行程序
 - FM-20FP test program 处理板测试程序
4. 附件
 - 电源变压器 (DC 5V)
 - RS-232C 到电脑的数据线
 - Documents CD 资料文档CD光盘

7. 订单资料

Module \ Sensor	VIRDI FOS01	VIRDI FOS02	VIRDI FOS03
FM-20FP	FM-20FP(01)	FM-20FP(02)	FM-20FP(03)
FM-70FP	FM-70FP(01)	FM-70FP(02)	FM-70FP(03)
FM-EVKIT	FM-EVKIT(01)	FM-EVKIT(02)	FM-EVKIT(03)
FM-DVKIT	FM-DVKIT(01)	FM-DVKIT(02)	FM-DVKIT(03)
FM-DVKIT : FM-EVKit + UFOM SDK (软件开发包)			

8. 产品优势

8-1. 光学传感器（美国专利号：US6,324,020）专利技术



What is claimed is :


A compact apparatus for forming a high contrast, low distortion image of a patterned object including :


1. A light refractor for reflecting and refracting light, the light refractor including
 - 1-1. an imaging surface against which a patterned object to be imaged is to be placed to form an apparent image of the patterned object in the light refractor;
 - 1-2. a viewing surface adjacent to the imaging surface and through which an image of the object to be imaged is projected, the viewing surface forming an angle γ with the imaging surface ;
 - 1-3. a further surface adjacent to the imaging surface

At least one lens adjacent to the viewing surface and for receiving and focusing and image of a patterned object projected through the viewing surface, the lens having a lens plane which is perpendicular to an optical axis of the lens, the lens plane forming an angle δ with the viewing surface

8. 产品优势

SPTO 9/22/2008 4:03:28 PM PAGE 2/004 Fax Server
 TO: NOEL C. GILLESPIE COMPANY: 2001 ROSS AVENUE, SUITE 2300


UNITED STATES PATENT AND TRADEMARK OFFICE
 UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND
 DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE

 *5006537444*

SEPTEMBER 22, 2008 PTAS

NOEL C. GILLESPIE
 2001 ROSS AVENUE, SUITE 2300
 BAKER & MCKENZIE LLP
 DALLAS, TX 75201

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BRIEF: LICENSE (SEE DOCUMENT FOR DETAILS).
 DOCKET NUMBER: 95215968.2000001

ASSIGNOR: SECUGEN CORPORATION DOC DATE: 09/09/2008

ASSIGNEE:
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 SEOUL, REPUBLIC OF KOREA 138-050

SERIAL NUMBER: 09368442 FILING DATE: 08/04/1999
 PATENT NUMBER: 6324020 ISSUE DATE: 11/27/2001
 TITLE: METHOD AND APPARATUS FOR REDUCTION OF TRAPEZOIDAL DISTORTION AND IMPROVEMENT OF IMAGE SHARPNESS IN AN OPTICAL IMAGE CAPTURING SYSTEM

P.O. Box 1450, Alexandria, Virginia 22313-1450 • www.uspto.gov

US06324020B1

United States Patent
 Teng et al.

(10) Patent No.: **US 6,324,020 B1**
 (45) Date of Patent: ***Nov. 27, 2001**

(54) **METHOD AND APPARATUS FOR REDUCTION OF TRAPEZOIDAL DISTORTION AND IMPROVEMENT OF IMAGE SHARPNESS IN AN OPTICAL IMAGE CAPTURING SYSTEM**

(75) Inventors: **Harry H. Teng, Stanford, CA (US); Sung-Chan Jo, Seoul (KR)**

(73) Assignee: **SecuGen Corporation, Milpitas, CA (US)**

(*) Notice: This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(e)(2).

Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/368,442**

(22) Filed: **Aug. 4, 1999**

(51) Int. Cl.⁷ **G02B 17/00; G06K 9/00**

(52) U.S. Cl. **359/726; 359/737; 359/798; 359/834; 356/71; 382/127**

(58) **Field of Search** **359/726, 737, 359/798, 831, 837, 356/71; 382/124-127, 116; 3405.53, 5.83**

(56) **References Cited**

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(12) **United States Patent**
 Teng et al.

(10) Patent No.: **US 6,324,020 B1**
 (45) Date of Patent: ***Nov. 27, 2001**

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0 308 162 A3	3/1989	(EP)	

(List continued on next page.)

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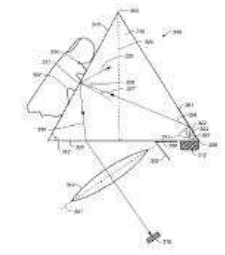
Seigo Igaki et al. (Jan. 1998). "Biographic Fingerprint Sensor," *Fujitsu Sci. Tech. J., JP-Fujitsu Limited, Kawasaki*, 25(4): 287-296.

Primary Examiner—Evelyn A Lester
 (74) Attorney, Agent, or Firm—Morrison & Foerster LLP

(37) **ABSTRACT**

An apparatus and method for acquiring an image of a patterned object such as a fingerprint including a light refracting device, a focusing lens, and a light source. The light refracting device can, for example, be a prism and includes an imaging surface, a light receiving surface and a viewing surface. Incident light from the light source is projected through the light receiving surface and reflected off a surface other than the imaging surface. This reflected light is then projected onto the imaging surface to create an image of the patterned object from substantially all scattered light through the viewing surface. The lens is placed adjacent to the viewing surface to focus the light on an image sensor. The apparatus is configured to reduce or substantially eliminate trapezoidal distortion and improve overall image sharpness in an image of an object created by the apparatus.

19 Claims, 7 Drawing Sheets



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专利注册区域：北美洲、南美洲、欧盟、日本、韩国。

8. 产品优势

8-2. 强有力的活体指纹侦测技术

- 假指纹类型



纸片



过胶的纸片



胶片



硅胶



橡皮



凝胶

- Union Community的核心假指纹侦测技术(受到专利保护)

静电容量

活体指纹和假指纹的静电是有区别的，所以使用静电容量技术来侦测假指纹。

光学特征

用红外光从一个特定的角度照射到指纹上，分析指纹数据特征。

算法

用算法分析，侦测活体指纹和假指纹的方位区别，来侦测假指纹。

8. 产品优势

8-2. 强有力的活体指纹侦测技术

Along with the Presidential Commendation, Union Community won the Jang Young-sil Science and Culture Award, the highest award in the industrial technology in invention field in Korea on 18 Nov 2008.

The Jang Young-Sil Award is considered to be Korea's leading industrial technology award, and is jointly held by the Korea Industrial Technology Association and Mael Business Newspaper, and sponsored by the Ministry of Science and Technology



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 - 실적별

제품검색

2008년 46주차

장영실상

회사명 : 유니온커뮤니티(주)
대표자 : 신요식
제품명 : 위조지문 판별 및 살균 기능을 갖춘 지문인식기
모델명 : VIRD1 4000UV
개발기술명 : 하이브리드 방식의 위조지문 판별 및 살균 기능을 갖춘 광학식 지문인식 장치 개발 기술
선정분야 : 컴퓨터,정보통신

제품소개

- 용도 및 기능 : 지문 인증을 통한 출입관리/근태관리/식수관리/출결관리 시스템 구축
- 차별적 특징 : 위조지문 판별 기능, 지문입력창 UV살균 기능, 근접자 식별 센서를 이용한 절전 기능

담당부서 : 전략기획본부 (☎ 02-6488-3071)

수상자

- 신요식
- 김금용
- 한경욱
- 김장식

8. 产品优势

8-3. 支持 ISO 19794-2 指纹特征数据格式

- Union Community's algorithm supports ISO International Standard Minutiae data format and it enables compatibility with other algorithms.
- **19794-2 Biometric Data Interchange Formats - Part 2: Finger minutiae data**
- Fixed-length 24-byte record header
- Single finger record for each finger
 - Fixed-length 4-byte header
 - Fixed-length 6-byte minutiae point
 - One or more extended data

Ref. No.	Title	Status
19794-1	Biometric Data Interchange Format – Part 1: Framework	IS
19794-2	Biometric Data Interchange Format – Part 2: Finger Minutiae Data	IS
19794-3	Biometric Data Interchange Format – Part 3: Finger Pattern Spectral Data	IS
19794-4	Biometric Data Interchange Format – Part 4: Finger Image Data	IS
19794-5	Biometric Data Interchange Format – Part 5: Face Image data	IS
19794-6	Biometric Data Interchange Format – Part 6: Iris Image data	IS
19794-7	Biometric Data Interchange Format – Part 7: Signature/Sign Time Series Data	IS
19794-8	Biometric Data Interchange Format – Part 8: Finger Pattern Skeletal Data	IS
19794-9	Biometric Data Interchange Format – Part 9: Vascular Image Data	IS
19794-10	Biometric Data Interchange Format – Part 10: Hand Geometry Silhouette Data	IS
19794-11	Biometric Data Interchange Format – Part 11: Signature/Sign Processed Dynamic Data	WD
19794-14	Biometric Data Interchange Format – Part 14: DNA Data	WD

8. 产品优势

8-4. 支持 “FBI” s WSQ 标准的图像压缩

WSQ format is the result of the Wavelet Scalar Quantization (WSQ), a Gray-Scale Fingerprint Image Compression Algorithm.

WSQ is widely used by FBI and many other agencies as the standard mechanism and format for exchanging and storage of fingerprint images. This makes your applications able to exchange images with similar ones, e.g., among the image databases of law enforcement agencies in a country.

Table 5 WSQ file format specifications

Feature	Description
Name	FBI's Wavelet Scalar Quantization file format. Also known as: FBI Fingerprint Format or FBI WSQ
Application	The standard file format used by the FBI for storage and interchange of grayscale fingerprint images
Originator	FBI (U.S. Federal Bureau of Investigation)
Type	Bitmap
Colors	8 bit grayscale
Compression	Wavelet Scalar Quantization
Maximum image size	64K x 64K
Multiple images per file	No