

DKF200 Software Development Kit



► Features

- Windows 98, 2000 compatible matching engine object code libraries
- MBF200 USB v1.1 port hardware
- SDK CD with complete install shield
- USB hardware port reference schematic
- Full Documentation

► Description

The DKF200 Software Development kit combines USB v1.1 with a Windows 98, 2000 compatible minutia based fingerprint matching engine to yield world class fingerprint authentication performance.

Fujitsu's advanced software matching engine for fingerprint

image processing and verification works in conjunction with Fujitsu's solid-state fingerprint sensor. Fujitsu's verification software has higher reliability than existing systems while improving on speed and memory performance. It optimizes for the best "false rejection" performance while satisfying market demand for "false acceptance" error rates.

► SDK Contents

- Fujitsu Install Shield
- Matching Engine object code
 - fpfltr5.dll
 - vmatcher.dll
 - kyQual.dll
 - VFPSImg.dll
 - VFPS.dll
 - VFPSPlus.dll
- Example C+ source code
- myMinutia™ Executable
- MBF200 USB port hardware
- Reference schematic

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▶ Image Modules

Image Capture Module [Figure 1]

The Image Capture Module performs several functions. It calibrates the Fujitsu fingerprint sensor, chooses the default sensor settings, and performs sensor diagnostics. It then captures the image as presented to the fingerprint sensor for storage in an image array. The output of this sensor is 256 x 300 pixel, grayscale image at 500 dpi.

Image Plus Module [Figure 1]

The Image Plus Module enhances the image capture module functions. It automatically adjusts the sensitivity of the Fujitsu fingerprint sensor to create the best image for wet, dry, or difficult-to-read fingers. It performs automatic gain control on a column-by-column basis, to obtain images of uniformly high contrast and low noise.

DFX (difficult finger extraction) [Figure 1]

This new technology incorporated into Image Plus produces clean, quality images of even the dirtiest fingers. By eliminating background noise and applying a gain factor to the image, DFX minimizes broken or merged ridges caused by dry or wet fingers.

Image Quality Module [Figure 1]

This module provides feedback on the quality of the captured image. It can produce error codes such as incorrect image position (high, low, left, right); no finger present; or finger too dry or too wet.

Image Enhancement Module [Figure 2]

This module takes the captured grayscale image and reduces image noise, enhances the ridges, and binarizes the image. The output of this module is a clean, binary image.

Minutia Extraction Module [Figure 2-3]

This module finds the minutia (ridge endings and bifurcations) and extracts only the significant minutia, eliminating noisy minutia and borders. It creates a template of less than 300 bytes for use with the fingerprint module.

Fingerprint Verification Module [Figure 4]

This module performs a one-to-one verification of the captured fingerprint minutia with the stored minutia template for that individual. It is able to score the result and provide statistics on the match.

▶ Matching Engine Components



Figure 1



Figure 2

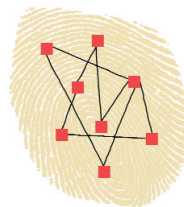


Figure 3



Figure 4

▶ System Requirements

- Pentium class PC or better
- Windows 98 or 2000
- Windows 98: 16 MByte RAM
- 5MB Disk space

FUJITSU MICROELECTRONICS AMERICA, INC.

Corporate Headquarters
3545 North First Street, San Jose, California 95134-1804
Tel: (800) 866-8608 Fax: (408) 922-9179
E-mail: fmacrc@fma.fujitsu.com Web Site: <http://www.fma.fujitsu.com>

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