CMITECH
IMAGING EXPERTS

NOVAFACE

Facial Recognition System

Compact terminal with ultra-fast subject finding and local authentication

APPLICATION

Compact, wall-mountable terminal for high throughput access control and time & attendance applications

Product Description

NovaFace is an advanced face recognition terminal that provides highly accurate face recognition in a compact and cost-effective embedded system. Employing the latest of high performance ARM processors, the NovaFace features a highly powerful Cortex A53 "octa-core" (eight core) CPU for ultra-face capture and processing of face images.

The octa-core architecture also allows for the utilization of the latest and most powerful, but complex, face algorithms available. The NovaFace face recognition system provides a fully touchless and contactless user experience while offering unparalleled matching accuracy. With ultra-fast image capture and face template processing, authentication is virtually "walk-through", making it ideal for access control applications.

The NovaFace system is compact, with dimensions of only 100 x 200 x 36 mm, and can readily be mounted on any wall, desktop, kiosk front-plate, or turnstile.

Typical wired interfaces will be 15V power and an Ethernet cable, with Wiegand 3 wire output for typical access control deployments.

The user interface is effortless and intuitive. All subjects within the very wide field of view are displayed, and the selected subject's face is highlighted by a clear color face display while all other subjects are displayed in dimmed lighting, making the selected subject instantly clear. Each subject's face can be found at up to 1.6 meters from the NovaFace system, with an active capture range of 0.3 to 1.6 meters. The NovaFace incorporates a highly innovative digital zoom feature that enlarges the subject's face image during capture, and automatically moves

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the display centering as the subject moves within the capture volume.

CMITech's proprietary deep-learning based face-detector also enhances operation in a wide range of ambient lighting for deployment flexibility. User positioning instruction are clearly shown on the display to guide subject movements, while authentication and authorization decisions are presented immediately in clear notations around the subject's face.

The on-board white and NIR illuminators expand the deployment flexibility of NovaFace, making it the ideal choice for advanced face recognition solutions across a diverse range of access control and time & attendance installations.

Simple and Intuitive Subject Positioning

NovaFace detects and displays the subject's face over 1.6 meters from the system on the high-resolution color display. The subject will simply and naturally walk toward the face capture range of 0.3 to 1.6 meters. Once the system recognizes the subject, the result will be immediately displayed with an indication line above the subject's face image.

Access Control Authentication (Verification)
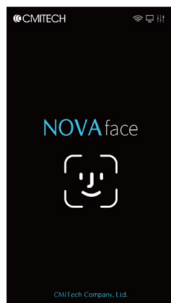
LAUNCHER VIEW

Home Page for start-up and administrator control.
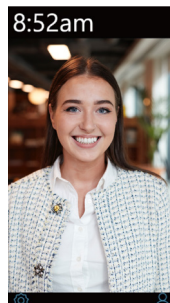
INITIAL SUBJECT VIEW

Display in dimmed light to indicate that face detection has not started or no subject is being processed.

FACE RECOGNITION STARTS

Subject's face changes to bright color to indicate which subject has been detected and is being actively processed.

IDENTIFICATION SUCCESS!

Subject is recognized and authorized: name and ID are shown. Wiegand (or other signal) is activated to open door.
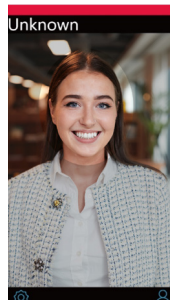
IDENTIFICATION REJECTION

No match against internal, on-board data base.

AUTHORIZATION DENIED

Indicates face recognition success, but ACU permission denied. Subject should contact administrator.

Key Features

Feature	User Advantages
State of art optical design	Optical design utilizes highest quality optics and very fast shutter speed, allowing the system to exceed industry standards for image quality.
Wide angle face imaging	Outstanding capture volume allows height range of 145 to 210 cm.
Advanced real time subject tracking with simple user instructions	NovaFace accurately locates the subject face in real time and tracks in 4 sides of angle to provides wider and deeper positioning.
Intuitive user interface	Modeled after latest smart-phone user displays, the user experience will be intuitive and effortless for almost all subjects.
Face matching engines	Advanced, embedded 8 core ARM CPU allows utilization of latest and most powerful and accurate face algorithms.
Display of authentication (matching) results	Automatic display of matching results, positioned adjacent to subject's face.
Supplemental display of authorization results	Authorization decisions (permissions) are enabled when coupled to access control provisioning logic so that "subject recognized, but permission not granted" decision can be displayed.
Language support	English, Korean, Simplified Chinese, Traditional Chinese, Japanese, Arabic, Spanish, Italian, Turkish, French.
Large on-board (embedded) face template data base	Stores up to 10,000 active face templates on-board in 1:1 recognition (verification) identification mode.
	Stores up to 3,000 active face templates on-board in 1:N identification mode.
High speed face matching	Up to 10,000 matches per second on-board.
Widest range of lighting conditions	Embedded illuminators in both white and NIR ranges expand use in adverse ambient lighting environments.
Standard multi-band RFID reader	MiFare, DesFire, FeliCa card support with standard embedded ISO/IEC 14443 reader.
Live face detection	YES, proprietary algorithm.

Key Features

Feature	User Advantages
Powerful and simple SDK	Based on CMITech's proven high level SDK architecture and code, the NovaFace is simple to integrate. All APIs reside on host-side application in Windows C++, Windows C# (.NET) and Linus OS, so no device level programming is necessary. Reference code supplied with SDK.
Full range of deployment options	Standard connections in include selectable Wiegand In/out, GPI, RS 485, and dry contact relay.
Fully compatibility with CMITech CMID Manager v2 access control and T&A solution software	Supports full integration with CMID Manager for distributed access control and T&A solutions on single network.

Technical Specifications

CPU	ARM octa-core
Memory	1GB RAM 8GB Flash
Number of cameras	One
Illumination	One visible (white) and one near-infrared (NIR) LED for optimal face detection and operation in low ambient light conditions
Dimensions	100 x 200 x 36 mm
Weight	400 g (0.9 pounds)
Display	5.0 inch (nominal), touch
Operating capture range	30 cm to 160 cm
User height range	145cm - 210cm (wth system installed at 135 cm)
Face extraction (encoding) and matching algorithm	YES, on-board algorithm functions included as standard. Please con-tact CMITech for description
Typical authentication speed	0.5 seconds with data base of 1,000 subjects
Matching speed	1.0 seconds in 1:N mode for 3,000 subjects
Enrollment speed	About 1.0 second
Fake face detection	YES
Data base size, on-board	10,000 subjects total Maximum 3,000 subjects in 1:N mode (authentication)
Audio	YES, front speaker
Power requirement	15 to 24 V DC nominal; maximum 30 watt. Power supply included
RF card reader	Standard ISO/IEC 14443 for MiFare, DesFire and FeliCa cards
Connections	RJ45 for Ethernet, selectable Wiegand In/out, GPI (3), RS485, dry contact relay
USB	Only for host and service modes

Contact

Please Contact CMITech or your representative for more information about the NovaFace product, CMIRIS Software Development Kits (SDK) and other supporting software.

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