

NOVAFACE-2

Facial Recognition System

Compact terminal with ultra-fast subject finding and local authentication



APPLICATION

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

Product Description

NovaFace-2™ 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-2 features an embedded face recognition module with its own imaging and algorithm co-processor for ultra-fast capture and processing of face images.

This architecture allows for the utilization of the latest and most powerful, but complex, face algorithms available. Now, The NovaFace-2 face recognition system not only provides a fully touchless and contactless user experience, but embedded solution matching accuracy is unparalleled! In authentication mode, capture speeds are virtually “walk-through”, while very fast image and template processing times make authentication decisions seem instantaneous.

The NovaFace-2 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.

The user interface is effortless and intuitive. Display color boxed face to indicate that fake face to orange color, unrecognizable to white color, masked to green color, no mask to yellow color. Subject's face can be found at up to 2 meters from the NovaFace-2 system, with an active capture range of 0.4 to 2 meters. The NovaFace-2 incorporates a highly innovative digital zoom feature that enlarges the subject's face image during capture, and automatically tilting 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

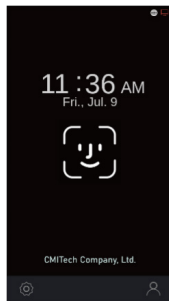
of ambient lighting for deployment flexibility. User positioning instruction are clearly shown on the display to guide subject movements, while authentication and authorization decisions are presented immediately in clear notations around the subject's face.

The on-board white and NIR illuminators expand the deployment flexibility of NovaFace-2, making it the ideal choice for advanced face recognition solutions across a diverse range of access control and time and attendance installations.

Simple and Intuitive Subject Positioning

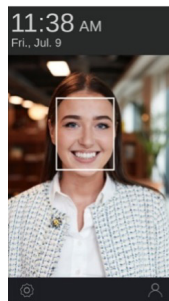
NovaFace-2 detects and displays the subject's face over 2 meters from the system on the high-resolution color display. The subject will simply and naturally walk toward the face capture range of 0.4 to 2 meters. Once the system recognizes the face, the result will be displayed immediately with colored indication box over the subject's face image.

Access Control Authentication (Verification)



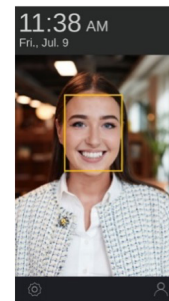
LAUNCHER VIEW

Home Page for start-up and administrator control.



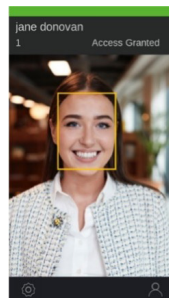
FACE DETECTION STARTS

White box around face shows which subject has been detected and is being actively processed.



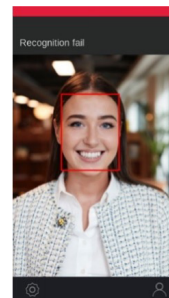
FACE RECOGNITION STARTS

Display color box around face indicates normal face (yellow) fake face (orange), or masked face (green).



IDENTIFICATION SUCCESS!

Subject is recognized and authorized: name and ID are shown.



IDENTIFICATION REJECTION

No match against internal, on-board data base.

Key Features

Feature

State of art optical design

Dual face cameras

Wide angle face imaging

Advanced real time subject tracking with simple user instructions

Intuitive user interface

Face matching engine

Display of authentication (matching) results

Language support

Large on-board (embedded) face template data base

High speed face matching

Fast authentication speed

Widest range of lighting conditions

Standard multi-band RFID reader

Live face detection

User Advantages

Optical design utilizes highest quality optics and very fast shutter speed, allowing the system to exceed industry standards for image quality.

Two cameras—one in visible and one in NIR—optimize face detection in the lowest of ambient lighting conditions and provide for superior live face detection.

Outstanding capture volume allows face recognition at distance range (stand-off) of 0.4 to 2.0 meters. Corresponding height range of 65 cm at subject-to-device distance of 2 meters.

NovaFace-2 accurately locates the subject face in real time.

Modeled after latest smart-phone user displays, the user experience will be intuitive and effortless for almost all subjects.

Integrated dual camera and algorithm co-processor to allow utilization of latest and most accurate face algorithm.

Automatic display of matching results, positioned adjacent to subject's face.

English, Korean, Simplified Chinese, Traditional Chinese, Japanese, Arabic, Spanish, Italian, Turkish, French.

Stores up to 20,000 active face templates on-board in 1:N recognition (identification) mode.

Up to 20,000 matches per second on-board.

Typical 0.3 seconds in 1:N authentication mode from time subject is detected for typical data base size of 1,000.

Embedded illuminators in both white and NIR ranges expand use in adverse ambient lighting environments.

MiFare, DesFire (EVI), FeliCa card support with standard embedded ISO/ IEC 14443 reader.

YES, included in proprietary algorithm.

Key Features

Feature

Mask detection

Powerful and simple SDK

Full range of deployment options

User Advantages

YES

Based on CMITech's proven high level SDK architecture and code, the NovaFace-2 is simple to integrate. All APIs reside on host-side application in Windows C++, Windows C# (.NET) and Linux OS, so no device level programming is necessary. Reference code supplied with SDK.

Standard connections include Ethernet, dual Wiegand in/out, GPI, RS-485, dry contact relay, tamper detection, factory reset button.

Technical Specifications

CPU	ARM octa-core
Memory	2 GB RAM 8 GB Flash
Number of cameras	Two (2)
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	450 g
Display	5.0 inch (nominal), touch
Operating capture range	40 cm to 200 cm
User height range	145 cm to 210 cm (with system installed at 135cm)
Face extraction (encoding) and matching algorithm	YES, on-board algorithm functions included as standard
Recognition speed (1:N)	Within 1.0 second from time subject is detected against internal data base of 20,000 subjects. Typical 0.3 seconds with data base of 1,000 or less
Enrollment speed	Within 5.0 second
Fake face detection	Yes
Mask detection	YES. Two modes: 1) refuses authentication if mask is not worn and event log saved; 2) authentication permitted but event log saved
Data base size, on-board	Maximum 20,000 subjects in 1:N mode (authentication)
Audio	YES, front speaker
Power requirement	Nominal 15V DC, 2A. Voltage input range tolerance of 15 to 25V, minimum 30 watt. Universal power supply (100 to 240V AC input) included
RF card reader	Standard ISO/IEC 14443 for MiFare, DesFire EV1 and FeliCa cards
I/O connections	RJ45 for Ethernet, Wiegand In and Out, GPI (3), dry contact relay, Tamper, Factory Reset, SIM Socket (optional)
USB	For service mode only
Operating temperature range	0 to 45° C
Certifications	ISO 9001, CE, FCC Class A, KC, UKCA

Contact

Please Contact CMITech or your representative for more information about the NovaFace-2 product, CMIRIS Software Development Kits (SDK) and other supporting software.

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