Max TECHNOLOGY

NUMAX TECHNOLOGY (P) LTD.
(An ISO 9001:2008 Company)



Innovative face positioning feedback provides outstanding subject ease-of-use at capture range of 35 to 45 cm

Max-Bio IRIS

Iris Recognition System



Product Description

The Max-Bio IRIS next generation dual iris imaging system provides unprecedented subject ease of use through a highly innovative and intuitive user positioning approach. Subjects will view their own face in a front-facing, high resolution 5.0 inch color display to position themselves correctly within the real-time graphic interface. They will intuitively and naturally move to the correct position by simply centering and sizing their face image to the box within the display. In addition, the positioning box and the top border turn green to indicate proper distance positioning, after which the iris biometrics images are automatically collected, provided that the real time image quality metrics are satisfied. Vocalized commands give additional positioning guidance in real time.

In addition, this system features an expansive capture range of 35 to 45 cm in enrollment mode. Now, capturing highest quality iris biometrics images is fast, simple and fully intuitive for all subjects, including non-acclimated ones.

For small scale access control or time & attendance applications, the capture range can optionally be extended to 30 to 45 cm in recognition mode, further increasing positioning flexibility and ease of use.
The system also captures high quality face images simultaneously with iris image capture. On board face recognition is standard. The Max-Bio IRIS is an embedded system that includes its own ARM mainboard to manage all face and iris imaging processes. The normal external communication to host systems and clients is through TCP/IP via an Ethernet connection, but USB connectivity to a local PC host is available. The embedded architecture allows for on-board iris and face template generation and matching against a local data base.

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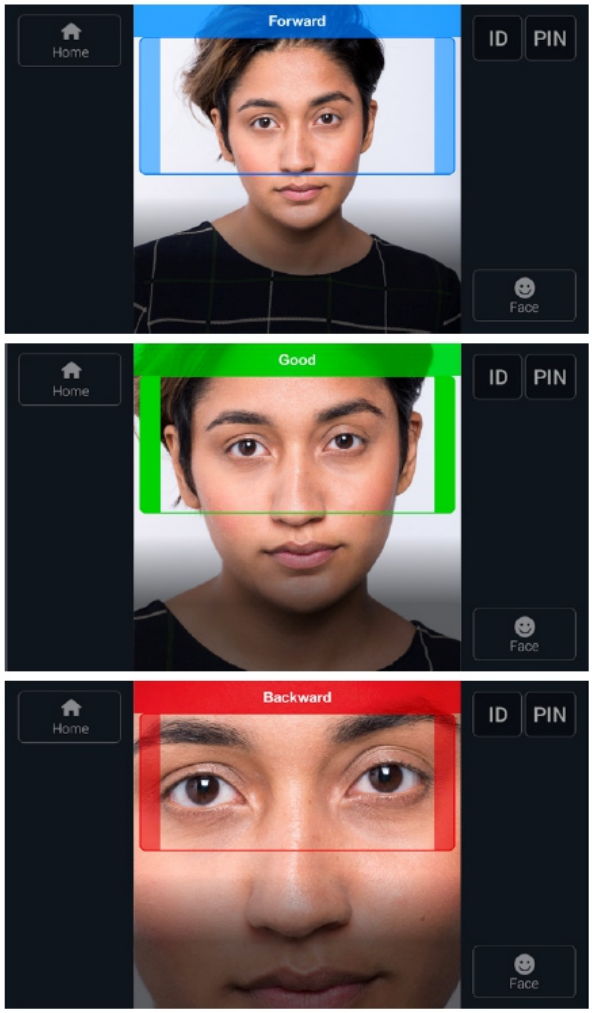
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The Max-Bio IRIS is offered in two basic hardware configurations: the Max-Bio IRIS AC version is for physical access control (PACS), time & attendance and similar applications, and includes an embedded MiFare card reader plus a wall mount bracket and a full set of I/O connectors; the Max-Bio IRIS ID version is for general identity management applications, and does not include the card reader.

A Wi fi option is also available.

Innovative, Intuitive Subject Positioning

The Max-Bio IRIS face imaging sensor detects and displays the subject's face at up to 1.0 meter from the system on the high resolution color display. The subject will naturally move toward capture range of up to 45 cm by simply making his or her face fit the positioning "guide box", which is the capture or focal range of the system. Vocalized instructions also command the user to move forward or back to get into range. When in the proper range, the guide box and top border turn green, indicating to the subject to stop and wait until the image capture process is completed. Like a smart phone "selfie" image, this interface is highly intuitive, with typical capture times of less than 1.0 second from proper positioning.



Move Forward
Out of range
Too far away at more than 45

Good
Within proper imaging range
Between 35 cm to 45 cm

Move Backward
Out of range
Too close at less than 35 cm

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Feature	User Advantages
Face image capture	Face images are collected in synchronization with the biometric iris images, so that the data record consists of one face image and two iris image. Note: the face images do not qualify as ISO standard, and therefore are not intended for large scale face recognition purposes. They are intended for small scale face recognition and manual verification of the subject's identity.
Very wide interpupillary distance	The wide interpupillary distance range accommodates all adults and young children, making it ideal for large scale, public authentication programs.
Large on-board data bases for on-board identification and authentication	Standard on-board (local) iris data base of 10,000 subjects (iris template-pairs), with matching speed of about 1.0 second in 1:N mode. Optional expanded data base size of 40,000 subjects, with matching speed of about 1.0 second in 1:N mode (with special processing acceleration functionality). Face template data base size of 1,000 subjects.
Modular version for integration into kiosks or other enclosures	Directed at OEM's and system integrators, this is a modular configuration that can be integrated into a kiosks and similar configurations. No (Contact Company for product details, designs and drawings.)
Cable connectors	Plug in connector kit for all cabling (except RJ-45 Ethernet) included in accessories package
WiFi option	Field installable WiFi dongle for ease of networking installation. (Contact Company for WiFi dongle specification for each country.)
Card reader option	card reader for support of dual or multi-factor authentication, or backup authentication for special case users.
Local language support	Screen commands for both subject and integrator are available in multiple languages. Please contact for list of languages that are supported. Positioning vocalizations can be modified into local languages by systems integrators through modification of on-board .wav files.

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Other Technical Specifications

Dimensions	166 x 166 x 43 mm (6.5 x 6.5 x 1.7 inches) without mounting wall plate
Weight	630 g without wall plate
On-board data storage	Standard: 10,000 iris template pairs (useful for 1:N authentication mode) with match speed of about 1.0 second Optional: 40,000 iris template pairs with match speed in 1:N mode of about 1.0 second Face data base size of 1,000 face templates, with 1:N match speed of about 1.0 second
Dual factor authentication with iris recognition	Smart card and PIN options for more secure authentication
Iris image output	Meets ISO 19794-6 2011 and ISO/IEC 29794-6 iris imaging standards
Iris image pixel resolution	640 x 480 pixels, 8 bit depth. Supports multiple formats.
Adjustable FAR (false accept rate)	Iris algorithm threshold can be modified to adjust FAR to between 10^{8} and 10^{-14}
Standard operational iris imaging distance (stand-off range) and depth of field	35 to 45 cm range (10 cm depth of capture range) in enrollment mode. Meets ISO 19794-6 specifications.
Optional Fast Recognition mode with extended capture range	Fast recognition mode provides 30 to 45cm range (15 cm depth of capture) for small scale applications. Does not necessarily meet ISO specifications. Selectable in SDK.
Iris positioning indicators	Face positioning within box in LCD serves to center users face in X-Y dimensions Subject sizes face to box size within LCD display for distance (Z) positioning, with simultaneous color bar display for correct distance positioning: Blue: too far away Green: OK Red: too close Supplemental voice distance feedback also simultaneous. Convertible to local language via .wav file substitution.
Auto tilt	Internal auto tilt range of +25 to -20 degrees, which corresponds to height range of approximately 40 cm. System can be mounted at any height to accommodate local user population. Please contact Company for mounting recommendations.
Iris time of capture	Typically about 0.5 second from time the subject's eyes are properly placed within capture volume

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IR illumination for iris imaging	Dual wavelength LEDs (spectral range of 700 to 900 nm) that conforms to ISO best practices for iris imaging
Face image capture	Standard 24 bit color and NIR, both accessible from SDK
Face recognition imaging	Standard on-board encoding and matching
Audio	24 bit, 1.8 W embedded speaker Line out connector for external speaker
Operating temperature range	0 to 45˚C
Humidity	10 to 90% RH, non-condensing
Illuminator eye safety standard	IEC 62471
Network interface , standard	10/100 Base-T Ethernet (RJ45 connector)
WiFi network interface, optional	Please contact Company for WiFi support in each country
Card reader option	Integrated, basic MiFare / DesFire reader (in EF-45 AC version only)
Standard mounting	¼ - 20 UNC (consumer camera tripod mount type)
Kensington lock slot	Standard
Physical access control (TW-EF45ID)version accessories	Terminal and wired connectors for: Wiegand in/out, RS-232, RS-485, 2X TTL (GPIO) inputs, 1 dry contact relay
	Detachable wall mount plate for easy wall installation
ID management (TW-EF45ID) version accessories	Terminal and wired connectors for: RS-232, RS-485, 2X TTL (GPI), 1 dry contact relay
Power supply requirement	Input 110 to 240V AC; Output 12V DC, 3.0A Adapter provided standard with system.



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