

Face Image Capture (FIC)

A NextgenID[®] Product

ID* Capture



Face Image Capture Units are designed to capture high quality face images suitable for printing on secure documents and for biometric comparison using face recognition technology.

The FIC is available in two models - one light and two light

The FIC-1 Series incorporates one light and a camera in a low cost, compact footprint package with a number of configuration options that allow customization to the resolution, field of view and installation requirements for your application.

If your application calls for more even light distribution over the face than can be achieved with a single light source, the FIC-2 Series should be considered.

The FIC Units are designed to capture face images for biometric enrollment and identity verification in applications where the applicant is cooperative or semi-cooperative. They come in a range of camera resolutions from 1 to 5 mega pixels and lens solutions. To accommodate different mounting requirements extension supports are available for both the FIC-1 and 2 Series. Typical configurations are shown below:



The FIC product line is designed with software for camera control, lighting control and with **VisPro-ware** for image quality checking and image processing.

FIC-1 Series Products

The FIC-1 Series is a rugged, reliable, self-contained camera system for capturing high quality face images for biometric enrollment or identity verification in public and high usage applications. When deployed in combination with our recommended software, it captures images and confirms quality compliance and suitability very quickly with minimal operator action.

Pictured on the right is the FIC-1330 front view showing light and camera and rear view showing a single USB and 15V power connection near the bottom.

Product Features

- Ideal for co-operative face enrollment such as driver's license and secure ID issuance.
- Very effective in semi-cooperative security checkpoints.
- Capture Zone optimized for applicant 2' – 4' or 3' – 5' from FIC.
- Designed for indoor use.
- Height options standard for optimum facial capture when seated at table top or standing at a counter. Custom heights available.
- Built-in biometric camera, dual camera option extends field of view while maintaining resolution
- Built in LED lighting that automatically adapts light intensity to light conditions on face.
- Optional NIR (near infrared) LED lighting for identity verification or identification.
- USB connection to computer.
- USB hub onboard.
- Rugged extruded aluminum housing
- Choice of mounting – fixed bolt down or glass panel mount
- Can operate 24/7
- System is designed for robust and constant use with little routine maintenance

Software Features

Face Image Capture (FIC-API) provides the following functions that can be easily incorporated into customer's workflow and integrated with existing applications. The FIC-API includes:

- Camera selection (dual camera FICs only)
- Selection of best face image of many
- Face finding, landmark finding
- Face cropping to ISO or custom requirements
- Face image quality checking to ISO requirements and best practices
- Lighting control for ramp on/off rates, light intensity
- Camera control for exposed camera adjustments and settings

The Biometric Camera and Adaptive Lighting is usually used in conjunction with other NextgenID software to provide the following functions:

- VisMatch Verification for 1-1 verification of captured face image against file images.
- VisMatch FRS for 1-n identification of duplicates in a watch list or large image database.

Hardware Features

- Rugged Aluminum housing for durability in high use public spaces
- Modular design so light module, camera module or visualizer module can be easily replaced on site
- Fully enclosed and secured camera and light components to eliminate tampering and theft
- High resolution camera to capture face images suitable for printing and face recognition
- Removable window on camera to provide for easy lens focus on set-up.
- Dual camera option available if extended field of view required
- Variable intensity lights to enable auto adjustment of light to suit ambient lighting and skin tone
- Constant white light color over full range of light intensity to ensure consistent color balance
- IR light option enables identity verification under varying light conditions without intrusive glare
- Clear dot matrix visualizer to attract applicants attention to the camera to aid in full frontal image capture and to provide directions through the capture process is visible from >20 feet
- Internal USB hub included so only one USB connection required to the FIC
- External USB connector provided to accommodate adjacent peripheral such as fingerprint reader or bar code reader
- Internal power distribution included so only one power connection required (15V for FIC-1 Series and 110-220 VAC, 50/60hz for FIC Series 2)
- Extension supports available for FIC-1 and 2 Series units at optimal height for desk or counter mount

Hardware Options

The FIC-1 Series is modular in design so that it can be configured to meet your requirements. This flexibility is illustrated in the table below:

FIC 1 Series Hardware Component	Configuration Options
Camera	3 mega pixels color, 1 mega pixel monochrome
Dual Camera option to extend field of view	Yes, camera resolutions as above
Scene Camera	1 or 3 MP with wide angle lens to monitor transaction
Light color	White or Near IR
Light location	Above or below camera
Visualizer (option)	Yes
Mount	Counter mount bolt down or glass mount
Heights	Table or counter top mount (Custom heights also available)
Finish	Powder coat black or silver

Typical FIC-1 configurations of visualizer, camera, light, scene camera and extension if required and base stacked from top to bottom in the order shown below. Others are available on request.

Enrollment Configurations			Verification Configurations				
FIC-130	FIC-1330	FIC-130S	FIC-111	FIC-111S	FIC-1111	FIC-111V	FIC-1111V
		Scene Camera		Scene Camera		Camera (M)	2 Cameras (M)
White Light	White Light	White Light	IR Light	IR Light	IR Light	IR Light	IR Light
Camera (C)	2 Cameras (C)	Camera (C)	Camera (M)	Camera (M)	2 Cameras (M)	Visualizer	Visualizer
Table or Counter Mount	Table or Counter Mount	Table or Counter Mount	Table or Counter Mount	Table or Counter Mount	Table or Counter Mount	Table or Counter Mount	Glass Mount
Base	Base	Base	Base	Base	Base	Base	

Camera Specifications

Camera mega pixels	1.3	3.1
Resolution	1280 x 1024, 5.2µm square pixels	2048 x 1536, 3.2µm square pixels
Frame Rate	15	12
Optical Format	½", 6.6mm x 5.3mm array	½", 6.5mm x 4.9mm array
Sensor Type	CMOS	CMOS
Color / Mono	Mono	Color
Sensitivity	High	High
Dynamic Range	60 dB	60dB
Auto Exposure	Automatic/Manual	Automatic/Manual
White Balance	Automatic/Manual	Automatic/Manual
Operating Temperature	0C to +50C	0C to +50C
Operating Humidity	0-95%, non-condensing	0-95%, non-condensing
Power	USB Bus Power	USB Bus Power
Lens Mount	12 mm	12 mm

Light Specifications

	White Light	Near IR Light
Light Characteristic	Color temperature 4500K	Narrow band IR, center wavelength 850 nm
Light Output	0 to 1200 Lumens	0 to 6.3 watts
Illumination	130 Lux on center at 4 ft. distance	70% vertical and horizontal
Light Distribution	70 degrees total included angle measured at FWHM (Full width half maximum)	
Programmable	Yes	

Visualizer Specifications

Display	Active matrix 5 by 7 bi-color (red 7 green)
Dot Diameter	5.0 mm
Dot Pitch	7.62 mm
Colors	Red, yellow, green
Programmable	Yes
Viewing Distance	>20 feet

FIC-1 Series Specifications

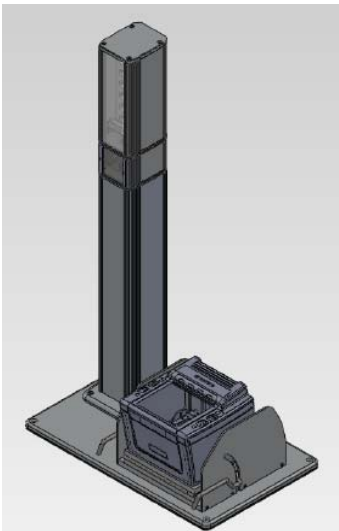
Housing	Extruded Al housing with machined Al base, cap and transition pieces. Clear PVC cover for light and camera. Removable camera window to facilitate focus adjustment. Four holes for bolt or screw fixing in place. Recommend tamper resistant heads.
Dimensions	Pole: 73.5 mm width, 91.6 mm depth, Base: 103 mm width, 132 mm depth
USB	USB 2.0 input, internal USB 4 port hub provides for light, camera(s), visualizer, 1 USB connector exposed for external device connection if all not used internally.
Power	15v dc, one external universal power supply input 100-240vac, 50-60hz provided with 2m cable.
Certifications	CSA, UL, FCC and CE in progress

FIC-1 + Fingerprint Capture Stand

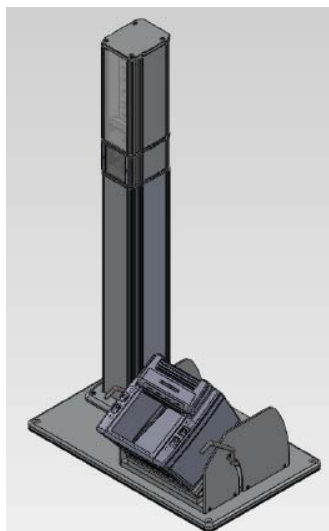
Often the FIC is deployed with 4-4-2 fingerprint capture device. The live scan device can be located close to the FIC on the counter or can be fixed to a common base with the FIC.

NextgenID provides a stand that will accommodate Cross Match, L1, 3M Cogent and Greenbit 4-4-2 fingerprint capture devices with the FIC. The base allows the fingerprint capture surface to be horizontal for desktop use, at a 30 degree angle for counter top implementation and 45 degrees to allow for wheel chair applicants to use a countertop mounted unit. Adjustment is by a simple latching lever that can be accessed by the applicant for behind the glass use.

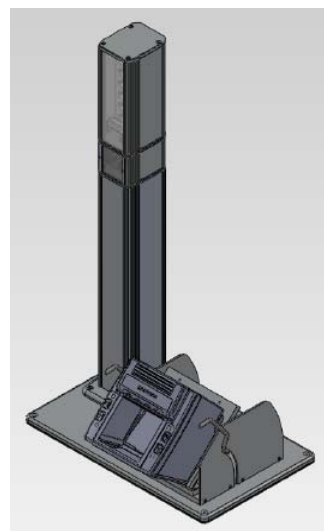
The stand is illustrated below in each of the three accessibility positions.



Zero Degrees



30 Degrees

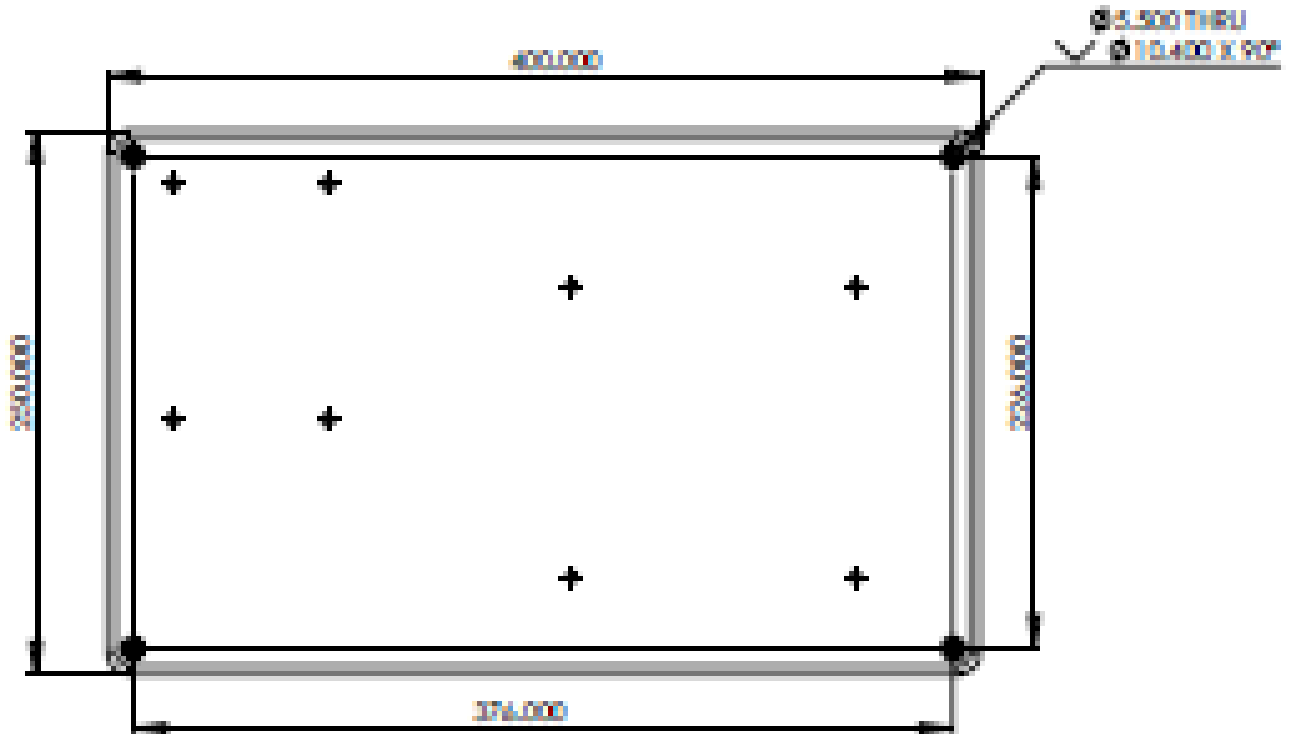


45 Degrees

The stand is designed to be either fixed to the counter table/counter or freestanding. The neoprene coating on the bottom of the base allows for non-slip use in free standing mode.

Base	Machined Aluminum base and stand with stainless steel lever arm and hinge. Neoprene coating on base bottom surface. Four holes for bolt or screw fixing in place. Recommend tamper resistant heads.
Dimensions	Base: 400 mm width, 300 mm depth
Security	Provision for Kensington lock on base.

Base mounting plate dimensions are shown below.



FIC-2 Series Products

The FIC-2 Series is a rugged, reliable, self-contained camera system for capturing high quality face images for biometric enrollment in public and high usage applications. Often, the FIC-2 is selected when forensic quality images may be required. When deployed in combination with its recommended software it captures images and confirms quality compliance and suitability very quickly with minimal operator actions.

Pictured on the right is the FIC-250 front view showing two lights and one camera and the rear view showing a single USB connection and a lines voltage power connection with a fused switch near the bottom right. The FIC-2 Series utilizes a number of the same components as the FIC-1 Series including some of the cameras, the lights and the software. Some of the optional configurations that are available are tabulated below:



FIC-2 Series Hardware Component	Configuration Options
Camera	3 or 5 mega pixels color
Extensions	6", 12" or 18" (Custom heights also available)

Color cameras with variable intensity white (visible) lights are frequently used for biometric enrollment. The extensions accommodate a range of mounting heights while keeping the camera height at approximately eye height for the average user.

Camera Specifications

Camera mega pixels	3.1	5.0
Resolution	2048 x 1536, 3.2µm square pixels	2592 x 1944, 2.2µm square pixels
Frame Rate	12	7
Optical Format	½", 6.5mm x 4.9mm array	1 / 2.5"
Sensor Type	CMOS	CMOS
Color / Mono	Color	Color
Sensitivity	High	High
Dynamic Range	60dB	60dB
Auto Exposure	Automatic/Manual	Automatic/Manual
White Balance	Automatic/Manual	Automatic/Manual
Operating Temperature	0C to +50C	0C to +50C
Operating Humidity	0-95%, non-condensing	0-95%, non-condensing
Power	USB Bus Power, 6v dc external power	USB Bus Power, 6v dc external power
Lens Mount	C mount	C mount

Light Specifications

	White Light
Light Characteristic	Color temperature 4500K
Light Output	0 to 1200 Lumens
Illumination	130 Lux on center at 4 ft. distance
Light Distribution	70 degrees total included angle measured at FWHM (Full width half maximum)
Programmable	Yes

FIC-2 Series Specifications

Housing	Al housing and base. Hinged top, removable front for ease of maintenance. Clear PVC cover for lights and glass cover for camera.
Dimensions	450 mm width, 105 mm depth, 283 mm high
USB	USB 2.0 input, internal USB 4 port hub provides for lights and camera.
Power	Internal universal power supply with input 100-240vac, 50-60hz
Certifications	Enclosure is designed to IP21. C-tick and Australia Safety Certified. FCC, CSA, UL, CE certifications are in progress.

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