

ic3D Camera

- real time 3D image capture

Cybula offers its' ic3D, the world's first camera capable of capturing a 3D image of a subject at a distance in any lighting conditions.



FEATURES

- Captures subjects at distances up to 6 meters from camera.
- No need to control external lighting – works even in direct sunlight.
- Large depth of field – over 1.5 meters.
- Captures multiple images of subject on the move.
- Reconstruction and operating software provided.
- Can be integrated with Cybula's FaceEnforce face recognition system.
- Supplied with flexible mounting system.

The ic3D camera takes 3D image systems into a new dimension by allowing image capture of a subject on the move and up to 6 meters from the camera. Uniquely, the system can be used under any lighting conditions even in direct sunlight avoiding the limitations inherent in other capture systems.



The system uses infra-red rather than visible light so the subject remains undisturbed during its' operation. Linked with Cybula's FaceEnforce face recognition technology, ic3D is suitable for covert operations such as security monitoring or surveillance.

Images are captured at a rate of 7 per second offering the opportunity to capture a moving subject. In addition to the 3D geometry, which can easily be manipulated on the screen, the surface may be textured mapped.

Use the control software to set key parameters on the camera and use the reconstruction software to optimise the quality and speed of processing.

APPLICATIONS

- Face recognition
 - Surveillance and policing
 - Monitoring high security facilities
 - Border control and immigration
- Film and gaming
- Medical, dentistry and cosmetics
- Computer vision R&D

Camera control

Selectable display

- 3D
- Video
- Dual

Live composite

Geometry channels

Texture channel

Frame buffering

Data logging

3D Reconstruction control

Flexible 3D rendering

- Point
- Wireframe
- Surface
- Texture mapped

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As supplied, the ic3D system comprises an integrated camera and projector unit, power driver, reconstruction software and operating console software.

Technical Specification

System Performance

- Capture distance: Adjustable from 3.5m to 6m
- Exposure: 2-30ms (manual) 5ms typical
- Gain: manual
- Simultaneous capture of texture and 3D images.
- Frame rate: 7 frames per second
- Field of view: Subject at 4.5m – field 585 x 775mm
Subject at 5.0m – field 650 x 865mm
Subject at 5.5m – field 710 x 950mm
- Depth of field: greater than 1.5m
- 3D surface accuracy: 0.7mm RMS
- Lighting: resilient to all, including outdoor

Sensor & Optics

- Sensors: 2 x geometry, 1 x texture
- Type: CCD progressive scan, shuttered, 2/3"
- Resolution (per sensor): 1024 x 1360
- Pixel depth: 8-bit
- Sensor optics: 50mm (MP) C-Mount (interchangeable)
- 3D baseline: 430mm
- Projection type: near-IR, pulsed laser

Other example configurations:

Distance	Lens	Field of view
0.85m	50mm	105 x 140mm
3.0m	35mm	555 x 735mm
3.5m	35mm	650 x 855mm
4.0m	35mm	700 x 980mm

Supported platform

- Intel based PC workstation (or laptop)
- Operating system: MS Windows XP
- RAM: minimum 250 MB, preferred 500 MB
- Gigabit ethernet (Intel Pro1000 chipset)
- HD: min. 25 MB (excluding data), recommended 5GB
- Pentium 4 processor or above for static individual constructions
- High spec. multi-core processor for continuous or volume constructions

Connectivity

- Gigabit ethernet, control + data.
- 8 general purpose IO (GPIO)

Power requirement/mechanical

Camera Unit

- Power: 100-240V, 50-60Hz, 7W.
- Dimensions (mm): 254 x 600 x 402
- Weight: 15kg
- Fixing: premium quality trolley stand supplied.

Power Unit

- Power: 100-240V, 50-60Hz, 75W – 125W
- Dimensions (mm): 205 x 400 x 301
- Weight: 14.5kg

Common

- 35°C ($\pm 10^\circ\text{C}$ from calibration point)
humidity (indoor use only): 20%-80%
(non-condensing)

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> high performance pattern recognition systems