

# THE F5 MANTIS VISION CAMERA

## A HANDHELD 3D IMAGER

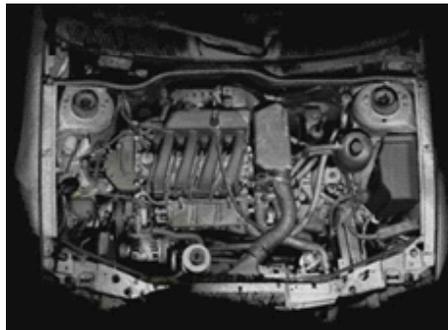
MVC F5 is a handheld 3D video imager tailored to the demanding requirements of Crime Scene Investigations, Intelligence Surveillance and Reconnaissance, and emergency response operations.



Camera Unit



UMPC: Data storage & Display Unit



- » The imager is light and small enough to be carried and operated even in remote, hard to access, and cluttered environments. Yet, it is ruggedized for use under demanding environmental conditions and excels at capturing completely dark scenes without emitting visible light or sound.
- » It is a fast 3D acquisition system that allows capturing and processing car-sized scenes in a few minutes, thereby, minimizing the time spent at the scene, with enough left for the operator to verify the quality and completeness of the 3D models.
- » Does not require scene preparations of any kind (e.g. markers) and minimal user supervision during the creation of the 3D models, making it exceptionally easy to use.

### TECHNICAL SPECIFICATIONS

**Weight:** Camera—1.3 kg;  
UMPC—1.0 kg.

**Imager Size:**  
33 cm x 4 cm x 3 cm.

**Field of View (V x H):**  
38° x 44°.

**Simultaneous Imaging Range:** 55 cm – 3.0 m.

**Single Frame Accuracy:** up to 0.5 mm at a range  $\leq$  1 m.

**3D Resolution:** up to 50,000 points per frame.

**Continuous Acquisition Time:** 1 hour.

**Eye Safety:** Class 1M.

### FAST ACQUISITION

Large imaging volume, resistance to motion-blur, and high 3D acquisition density, enable the modeling of scenes in minutes.

### COMPLETE COVERAGE

Complete 3D acquisition coverage of even small, cluttered, or hard-to-reach scenes.

### UNPREPARED SCENES

No need to place markers, powder objects, or prepare the scene in any way.

### ACCURATE

Up to 0.5mm

### RUGGEDIZED

Designed to work under demanding environmental conditions.

### COVERT

Operates in total darkness, silent, and emits no visible light.

### EASY TO USE

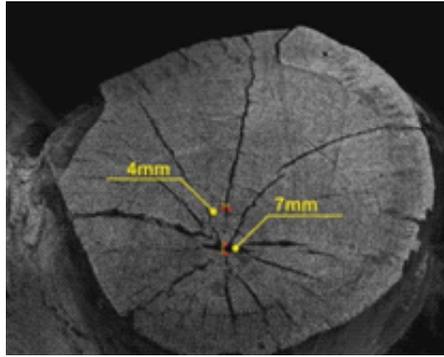
Similar in operation to ordinary (2D) video cameras.

### DYNAMIC SCENES

Measurable 3D video of moving objects, machinery, and people.

# THE MANTIS VISION PRODUCTION SOFTWARE

MVC is accompanied by Mantis Vision's Production (MVP) software, offering tools for file management, data processing, visualizations, and measurements.



- » Downloaded data from the imager are processed automatically into 3D videos where each frame contains up to 50,000 measurable points.
- » The point clouds are then stitched (aligned) together through a supervised automatic process, yielding a highly dense 3D point cloud of the complete scene.
- » Scenes captured over multiple videos can be easily combined into an integrated point cloud using MVP's compositing tool.
- » Point clouds are analyzed using MVP's measurement tools where distances, angles, and diameters can easily be established for points, planes, cross-sections, and cylinders.
- » Point clouds may be triangulated and surfaced and exported as models or point clouds for further processing in CAD/CAE applications.

## MEASUREMENT TOOLS

Distances and angles between points and planes, diameters, cross-sections, and much more.

## SCENE COMPOSITING

A tool for combining multiple point clouds to recreate a complete scene from its parts.

## TRIANGULATION & SURFACING

Turning point clouds into surfaced models.

## FILE EXPORTING

Exporting point clouds and models to CAD/CAE industry standard file formats (e.g. STL, PLY, XYZ, etc.).

## EASY TO USE

Minimal user intervention in a largely automatic 3D-modeling workflow.



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