

orten scan

Fast

Easy

Accurate

3D video camera - **3D** scanning in real time



▶ No laser





3D Scanner Overview

What is the 3D ARTEC scanner?

Artec 3D Scanner

The Artec 3D scanner is a revolutionary solution designed to capture shape of objects, in particular - human body, with high resolution and precision.

Scanning in real time

The Artec 3D scanner works just like a regular video camera, but instead of a two-dimensional image, the result is a three-dimensional one with speeds of up to 15 frames per second! Thus, the scanning process becomes extremely easy and straightforward: simply walk around the object and scan it from various angles, while the accompanying software combines all the scanned images into a complete model.

Portability

The Artec is a handheld 3D scanner, which allows the user to scan various objects with ease. Having the ability to walk around the object, scanning every side of it is especially important when the objects cannot be moved.

No Markers Needed!

To scan an object, there is no need to place countless markers all over it. The system uses unique geometry of each object to properly correlate the scanned images and to join them into one 3D image in real time (during the actual scanning process)!

Technology

The Artec scanning technology enables fast and accurate acquisition of the object surface (depth) using a method of structured light (no laser).

The data is acquired by projecting a special light pattern, the grid, onto the scene objects at a parallax angle. Grid distortion produced by geometry of objects is used to calculate the exact 3D coordinates of each point. These points form the basis for the triangulated surface that can be further translated into any of the common formats. Texture camera that is synchronized with a wide-field-of-view 3D sensor simultaneously captures both shape and texture of the object surface.

With this system, qualitative 3D models can be acquired in snap-shot or video modes.

Scanner Software

Along with the scanner, the client receives specialized software which guides him through the entire scanning process and all the way through the refinement of the final image.

Exporting into other formats

Using the included software application, the client can export the 3D model into one of many other popular formats: STL, OBJ, PLY or WRL.

Various scanner sizes for various object

Artec has developed various-sized scanners specifically to accommodate the scanning of a range of objects: from a matchbook to a whole person. It is recommended that the appropriate-sized scanner is used for a specific purpose to arrive at the final 3D image quickly and most efficiently. In certain cases, a combination of two scanners can be used to maximize accuracy and efficiency.

Scanner models and specifications

	TDSL Large	MH Walle	TDSS Small
Dimensions (mm)	353x114x70	180x187x260	266x114x70
Weight (kg)	2.3	1.4	1.9
Field of view (h x w)	41 x 32°	30 x 21°	30 x 21°
Working distance (m)	0.8 - 1.6	0.4 - 1.0	0.15 - 0.25
3D resolution (mm)			
- single frame mode, up to	3	1	0.4
- multi frame mode, up to	1	0.5	0.2
3D accuracy (mm)			
- single frame mode, up to	0.3	0.15	0.06
- multi frame mode, up to	0.1	0.05	0.02
Color		available on MHT- Texture	

General specifications for all scanner types

Power consumption	12V, 36W
Interface	1 x USB 2.0
Light source	Structured light with flash bulb (no laser)
Video frame rate, up to	15 fps
Exposure time	0.0001 s
Data acquisition speed, up to	500 000 points/s
Calibration	< 1mm (no special equipment required)
Output formats	STL, OBJ, PLY, WRML
Processing capacity	40 000 000 triangles/1 GB RAM
Multi core processing	Yes
Compatibility	Windows XP, Vista, 7, 32/64 bits
Minimum computer requirements	Intel® Core™ 2 duo, 2 Gb RAM, Nvidia Geforce Go 7400