ARTEC 3D SCANNING BUYER'S GUIDE

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scansource 3D

Definition of 3D Scanning

3D scanning allows you to capture physical objects and make a digital model in a matter of minutes. While the most common applications for 3D scanning are reverse engineering, inspection, digital archiving, rapid prototyping and 3D printing, the possibilities for 3D scanning are endless.

A 3D scanner is a device that captures the geometry of an object and produces a three-dimensional digital model. The scan data is captured by 3D scanning software that allows you to process and use the model in many different ways. A 3D model can be saved and used in its original form or altered to meet your needs.

Types of Scanners

There are many different types of 3D scanners that range in price from $100 to over $100,000. Typically, the price of the scanner reflects the accuracy and resolution of the scanner. Accuracy and resolution is measured in micrometers, commonly referred to as microns. The finer the accuracy and resolution, the more expensive the scanner will be.

Some scanners are stationary and sit on a tripod with a fixed field of view that limits the size of the object that can be scanned. Artec scanners are hand-held and portable for maximum flexibility.

There are many different technologies used in 3D scanning. Lasers, white light, and blue light are common examples. The scanners offered by Artec use white and blue light projection.

Texture Capture

Another factor that will affect the cost and type of the scanner is whether the scanner captures texture. In the 3D scanner world, texture = color. Not all 3D scanners capture texture so this may be a feature you need to consider if your application requires it. Artec scanners are capable of capturing texture.

President Obama - Artec Eva

Circuit Board - Artec Spider

Giraffe - Artec Eva

When choosing a scanner, info such as object size, detail level, and how the 3D model will be utilized are very important. Always check the scanner specs to see which scanner is best for your application. Here are some industry application examples.

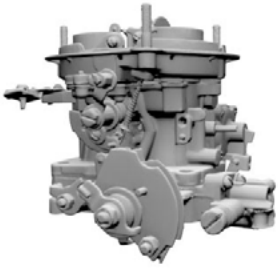
Medical

Custom Wheelchair

Custom Orthopedic Braces

Plastic Surgery

Industrial Design and Manufacturing



Carburetor - Reverse Engineering

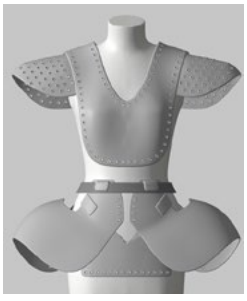
Hyundai Seat - Quality Control

VW Bus Scan - Vehicle Customization

Art and Preservation

Statues

Archaeological Preservation



Custom Artistic Clothing

Animation and Graphics

World War Z - Weapon Props

World War Z - People

World War Z - Misc. Item Props

Artec Spider

The Artec Spider is designed specifically for CAD users performing reverse engineering, product design, quality control and mass production.

Scans with the Artec Spider produce models with sharp, precise details and edges. The Spider is designed to scan small objects with complex geometry, sharp edges and thin ribs.

Scan such objects as human ears, keys or coins, use numerous measurement and editing tools within Artec Studio to work with your data, and export to CAD software.

3D Resolution	0.1mm
3D Point Accuracy	0.05mm
Scan Distance	170mm to 300mm
Color Texture Camera	1.3mp

3D rendering of an Artec Spider scan

Artec Eva

The Artec Eva 3D scanner is the ideal choice for those that need to a quick, textured, and accurate scan. Eva doesn't require markers or calibration. It captures objects quickly in high resolution and vibrant color, which allows for almost unlimited applications.

The Eva is the most versatile and popular Artec scanner size. Perfect for scanning medium objects such as a human face, human body, a lamp, or a motorcycle exhaust pipe.

3D Resolution	0.5mm
3D Point Accuracy	0.1mm
Scan Distance	400mm to 1000mm
Color Texture Camera	1.3mp

3D rendering of Artec Eva scans

For questions about the info in this guide, please contact ScanSource 3D.

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