

Model Shop Color 3D Scanner

The Model Shop Color 3D Scanner couples the 3030RGB scanhead with the MS motion system.

The Model 3030 3D scan head is an advanced, general-purpose implementation of Cyberware's proven 3D digitizing technology. The 3030 incorporates a rugged, self-contained optical range-finding system, whose dynamic range accommodates varying lighting conditions and surface properties. Entirely software controlled, the 3030 requires no user adjustments in normal use.

In operation, the 3030 shines a safe, low-intensity laser on an object to create a lighted profile. A high-quality video sensor captures this profile from two viewpoints. The system can digitize thousands of these profiles in a few seconds to capture the shape of the entire object. Simultaneously, a second video sensor in the 3030 acquires color information.

The scanning process captures an array of digitized points, with each point represented by x, y, and z coordinates for shape and 24-bit RGB coordinates for color. The 3030 transfers this data via a SCSI interface to a graphics workstation for immediate viewing and modification.

In specialized applications, color can reveal characteristics such as skin discoloration, the grain of a piece of wood, or the locations of fasteners. Working in the infrared region, a customized color subsystem could even detect surface temperature.

The MS motion system is especially well suited to the types of subjects digitized in model shop and animation work. The MS platform adjusts quickly to accommodate subjects such as 1/5-scale automobile models and other objects that will be incorporated into CAD/CAM systems.

To achieve a variety of digitizing patterns, the MS platform features both linear and cylindrical scan paths plus linear/cylindrical combinations. One motion system moves objects along the length of the motion platform, while another



Cyberware's most versatile 3D scanner for inanimate objects.

Ideal for scanning large sculptures, maquettes and industrial models.

motion system rotates the object. By combining these movements, one can get detailed scans of an entire object - even exotically shaped objects.

Color information in 3D digitizing makes available nearly all the information a graphics application needs to fully describe an object. In addition to enhancing realism in graphic models, color denotes boundaries that are not obvious from shape alone. Color indicates surface texture and reflectance. And by marking an object's surface before digitizing, one can use color to transfer ideas from the object to the graphic model.

Scanner Specifications

SCANHEAD

Refer to the 3030 Datasheet for specifics on the various scanheads that are available with this bundle.

MOTION SYSTEM

MOTION RANGE

X	0m-1m (0"-39.37")	Servo-driven
Y	0m-1m (0"-39.37")	Manual, with mm/inch scale
Z	0	
Cylindrical (Theta)	0°-360°	Servo-driven

POWER REQUIREMENTS

Input Voltage Selectable 100V, 120V, 220V, 240V, 47-63Hz

Power, Maximum .. 500W

SIZE

Width 182.5cm (73")

Height 192.5cm (77")

Depth 122.5cm (49")

Weight 332Kg (730 lbs)

GENERAL

Interface USB

Light Plane Vertical

Environment Subject illumination measured with incident meter must be 1Klux for RGB and 10Klux for sRGB. Room illumination should be specified at 2.5-3.5Klux.

OUTPUT FORMATS

File Format	Converter
Echo	CyScan / CySurf
CyScan	CyScan
PLY	CyScan / CySurf
3D Studio	ply23ds
OBJ	ply2obj
STL	ply2stl
ASCII	ply2asc
DXF	ply2dxf
DXF (3D FACES)	ply2dxf -f
IGES 106 124	ply2iges
VRML	ply2wrl
IGES 128 NURBS	CySurf
Inventor	ply2iv

Additional file format support is available. Contact Cyberware with your specific requirements.

The Cyberware data format is in the public domain, so it is easy to create your own special-purpose translation routines.

The MODEL SHOP COLOR 3D SCANNER BUNDLE includes:

Standard-resolution 3030 scanner with RGB texture map capability and Model Shop motion platform, USB interface, power supply, cabling, and online manuals. Also includes node-locked CyDir, Decimate, and scanning software, as well as file format translators, on-site installation and training, a one-year return-to-factory warranty, technical support and software updates.



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