

A

W

H

I

P

M

I

X

E

B

O

O

K



3Shape Lab Scanners

A Buyer's Guide

Introduction

Dental laboratory scanning is continually growing. Though the speed at which laboratories are accepting scanners as part of a daily workflow is increasing quickly, the technology is evolving at an even greater pace. This eBook has been developed to help the laboratory make a much more educated choice when purchasing a new scanner. It can be considered a Buyer's Guide for 3Shape scanners.

We have seen the progression of scanners, starting with a simple tactile scanner, then ones using a white light source with a single camera and a system supporting the model in multiple axes. The growth from there included the addition of more cameras, increased resolution, blue light and a housing that enables the scanner to scan all surfaces of two articulated models. The additional camera improves scan speed, accuracy and scan coverage and the newer models generate multiple lines by moving the scan head along a precise linear axis.

3Shape scanners have been the hallmark of dental laboratory scanners for many years. They have proven to be innovative and have led the way in digital scanning for so long, their name is almost synonymous with the word 'scanning'.

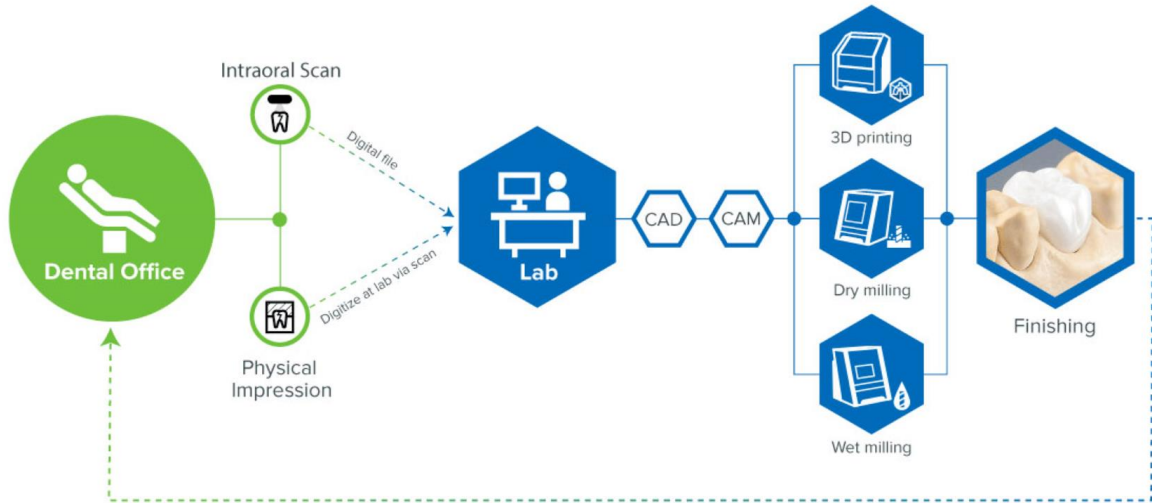
What Drives the Machines?

The machines receive information and either mill or 3D print using different software. The Computer Assisted Design (**CAD**) software enables you to create the digital image of a pattern. This software is generally paired with a scanning software and a 3Shape scanner, which provides a 3D digital image of the model or cast to be used. At the end of your design, you save an .STL file which contains the design and is communicated by your computer to the milling machine software program.

CAM (Computer Assisted Manufacturing) software will be used to program the feeds, speeds and directions that the individual cutting tools move.

The third piece of software is the 'V' panel. This is contained in the computer that drives the Mill and controls the calibration and movement of the spindle to the home position and the retrieval of individual cutting tools and small functions of the mill.

The Digital Workflow



Workflow diagram by Roland DGA

This illustrated workflow shows the process of producing a permanent restoration from the Dental Office through the milling step. Once the laboratory receives the impression or the digital intraoral scan from the dental office, they are ready for 3Shape. If it is a physical impression, it would need to be scanned, in order to create an .stl file. Then the CAD software would be used to create the design of the crown or bridge before it moved on to the CAM software for milling or 3D printing.

The Scanners

Let's take a look at the scanners before we delve into the software.

E1

Essential Scanning to Digitize Your Lab

- 2 x 5 MP cameras, Blue LED Multiline
- Accuracy (ISO 12836 / implant) : 10µm / 12 µm
- Scan speed (arch): 40 sec
- Scan speed (die): 25 sec
- Scan speed (full arch impression): 130 sec
- Texture: n/a



E2

Increased Productivity and Texture Scanning

- 2 x 5 MP cameras, Blue LED Multiline
- Accuracy (ISO 12836 / implant): 10µm / 12 µm
- Scan speed (arch): 30 sec
- Scan speed (die): 20 sec
- Scan speed (full arch impression): 90 sec
- Texture: B&W



E3

High Performance and Color

- 2 x 5 MP cameras, Blue LED Multiline
- Accuracy (ISO 12836/ implant) : 7 µm / 10 µm
- Scan speed (arch): 24 sec
- Scan speed (die): 18 sec
- Scan speed (full arch impression): 80 sec
- Texture: Color



D1000

Ultra-high Productivity

- 4 x 5 MP cameras, Blue LED Multiline
- Accuracy (ISO 12836 / implant) : 5 µm / 8 µm
- Scan speed (arch): 16 sec
- Scan speed (die): 15 sec
- Scan speed (full arch impression): 65 sec
- Texture: Color
- Scanning strategy: Die in model



D2000

All-in-one Scanning for Maximum Throughput

- 4 x 5 MP cameras, Blue LED Multiline
- Accuracy (ISO 12836/implant) : 5 µm / 8 µm
- Scan speed (arch): 16 sec
- Scan speed (die): 15 sec
- Scan speed (full arch impression): 65 sec
- Texture: Color
- Scanning strategy: All in one



3Shape Software

With 3Shape Dental System, labs can continuously expand their portfolio with more services to stay ahead. 3Shape is renowned for its unrivaled range of treatment workflows including special types to cover the diverse needs and preferences of dentists and their patients. These include single crowns • full anatomical bridges • Maryland bridges • copings • screw-retained crowns and bridges • position guides • implant frame bridges • veneers • implant bars • surgical guides • RPDs • dentures • temporaries • diagnostic waxups • post and cores • post-retained crowns • impression trays • c&b models • telescopic crowns • custom abutments • implant models • splints • ortho models • and aligner models, just to name a few!

What about Full Digital Dentures?

Recent advancements in 3Shape's Denture Design software and new possibilities within materials and manufacturing make it highly attractive and profitable for labs to produce dentures digitally. Moving forward, digital production of dentures is expected to disrupt the industry for removables and now's the time to get on board.

True Communication

3Shape Communicate eases collaboration between dentists, surgeons and lab technicians to enhance efficiency and improve results.

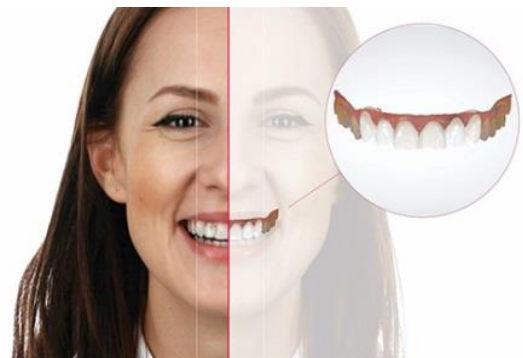


Beautiful smiles with 3Shape Smile Design

Create perfect digital smile designs based on a photo of the patient's face in just a few minutes. **3Shape Smile Design** is included with 3Shape Dental System Premium.

Link between 2D and 3D

Use the digital smile design with the patient's photo to guide your 3D restorative design in the 3Shape **Dental System RealView Engine** for high esthetics and optimal results.



A

W

H

I

P

M

I

X

E

B

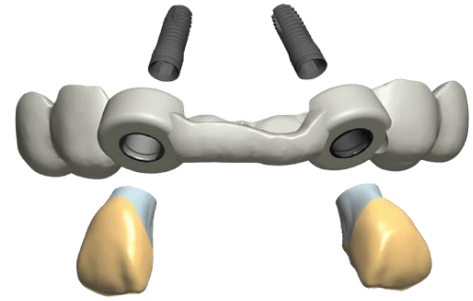
O

O

K

Go digital with 3Shape Implant Studio

Digital technology is bringing consistent clinical insight and predictability to complex implant procedures. With 3Shape's Implant Studio, you have the tools needed to achieve predictable results based on prosthetic driven implant planning. In this video you will see how digital implantology can enhance the patient experience and reduce chair-time, while also enabling you to expand your offering and deliver the complete prosthetic solution to the patient in one session.



3Shape Orthodontic Lab Software

Digitally create and produce clear aligners*, night guards, retainers, customized bands, splints, surgical bites, palatal expanders, bionators, twin blocks, Herbst appliances and much more**. Open file formats enable you to manufacture in-house or externally. Do you do a bunch of orthodontic appliances? Are you an ortho lab? These two 3Shape Scanners are ideal for orthodontics.

R1000

Ultra-high productivity

- 4 x 5 MP cameras, Blue LED Multiline
- Accuracy (ISO 12836 /study model): 5 μm / 8 μm
- Scan time plaster model: 23 sec
- Scan time impression: 50 sec
- Texture: Color



R2000

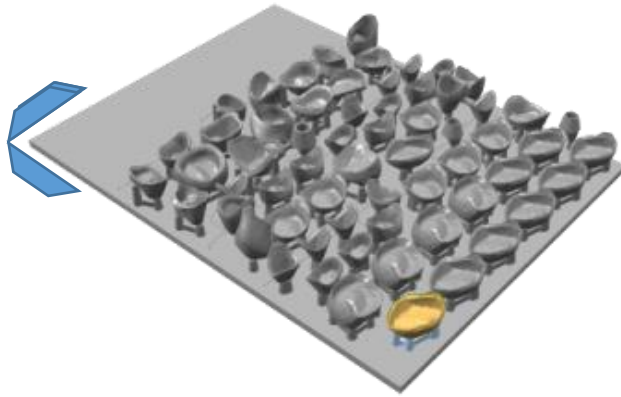
Upper/lower simultaneous scan

- 4 x 5 MP cameras, Blue LED Multiline
- Accuracy (ISO 12836/study model): 5 μm / 8 μm
- Scan time plaster model: 23 sec
- Scan time impression: 50 sec
- Texture: Color
- Scanning strategy: All in one



Integrated Automated Milling and 3D Printing

3Shape CAMbridge® software gives labs and milling centers a competitive edge by enhancing cost-efficiency and productivity of manufacturing workflows.



3Shape CAD Points

Get easy access to advanced indications

3Shape CAD Points is a getting-started or business expansion package for labs that want to offer a wider range of indications with a minimal up-front investment. CAD Points gives labs Pay-Per-Design access to 3Shape's add-on modules for designing advanced indications such as Customized Abutments, Implant Bars & Bridges, Removable Partial Dentures, Denture Design and Model Builder™ for TRIOS® and 3rd party scans.

How does it work?

- CAD Points are available for licensed owners of 3Shape Dental System™
- Purchase CAD Points directly through 3Shape's Webshop or your 3Shape reseller
- Use your CAD Points immediately to pay on the spot for creating a new design
- CAD Points give access to 3Shape's add-on modules: Customized Abutments, Implant Bars & Bridges, Removable Partial Dentures, Denture Design and Model Builder™ for TRIOS® and 3rd party scans
- The ideal 'getting-started' package for labs of any size
- Cost-efficient - access to advanced design indications with no investment in add-on modules
- Minimal risk - a flexible and safe investment solution for small labs just starting with CAD/CAM
- Flexible - use CAD Points for Customized Abutments, Implant Bars & Bridges, and Removables
- Durable - CAD Points never expire
- Convenient - purchase when needed, any day and any hour on the 3Shape WebShop

A

W

H

I

P

M

I

X

E

B

O

O

K

3Shape Scanner Webinars

[Making Clear Aligners Using the 3Shape Ortho System Module](#)

Clear Aligners can be a very profitable business and they are now yours for the making. This webinar will go over the process of using the 3Shape Ortho System Software to create tooth movements for the purpose of making clear aligners.

This webinar will go over the process of:

- preparing the models by making them “watertight”
- setting up the scans to make the movements
- the tools used for making the movements
- outputting the models in each of the different stages for making vacuum forms

[3Shape Implant Studio 101](#)

3Shape Implant Studio® 2016 software for dental practices and labs is a fast, easy-to-use, and predictable digital implant planning/surgical guide solution. It enables the planning of single to complex implant procedures by considering the esthetics and intended final restoration as well as the overall clinical situation.

In this webinar you will learn:

- How to use 3Shape Implant Studio for planning implant placement
- Designing tooth supported surgical guides

[Digitally Designing the Screw Retained Prosthesis](#)

This webinar will demonstrate the use of 3Shape Dental Designer software to design screw-retained implant crowns with gingival architecture. It will take a detailed look at the exceptional tools which 3Shape provides its users with to simplify the task of fabricating these popular prostheses.

Authors and contributors

Roland DGA
Bernie Jaroslow, CDT
Evan Kemper, CDT
Cory Lambertson
Brandon Smith, CDT

A

W

H

I

P

M

I

X

E

B

O

O

K

3Shape Scanners A Buyer's Guide

A

W

H

I

P

M

I

X

E

B

O

O

K

