DENTAL SYSTEM™ BY 3SHAPE

What’s new in Dental System™ 2013

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3Shape’s Dental System™ 2013 carries forward 3Shape’s long standing reputation as the creators of the world’s most innovative and sold lab system for Dental CAD/CAM. This latest Dental System™ 2013 version release brings 3Shape users even more powerful features, improved functionalities and new tools to improve your productivity and business opportunities.

3Shape believes that a dynamic and continuously up-to-date system is a natural trait of any CAD/CAM solution for labs and that is why we include unlimited upgrading as an integral part of our LAB care™ package to regularly empower your system with the latest technologies. Now we give you yet another release, to ensure that your system represents a future-secure investment - stays alive for years to come, and grows stronger and more competitive every year.

Each of the new major additions is described below followed by a list of minor improvements implemented in coming updates during this year. Please refer to the online User Manual for detailed descriptions of each feature. We hope you will enjoy exploring the creative power of this new release and trust that it will add true value to your daily business!

New Dental System™ user interface

The basic user-interface has been redesigned in Dental System™ 2013 to improve ease of use and simplify the design workflow. The new Full Screen design window maximizes 3D design space while a redesigned workflow progress bar carefully guides the user through each design step. To ensure a high level of consistency, the same icons are now reused in the Order Form, workflow progress bar, visualization sliders, Control Panel etc.

Improved Order Form

A new collection of Order Form icons makes it easier, faster and more intuitive to create orders. The Order Form has been expanded with a range of new indications, such as Anatomical Abutments, Screw Retained Crowns, Post and Core, and Gingiva design for selected restoration types. Using the new ‘Set default’ option icon, the user can save his Order Form selections as default for the particular order indication. A new option makes it possible to visualize the brand logo of selected materials directly in the Order Form for easier identification.
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Change Order Form during design
The 2013 release introduces a new option to change the selected Order Form indication during design and reuse the margin line and anatomy design that have already been created. This enables users to easily change the order without the need for redesigning. For example when changing a “Crown” order to an “Anatomical coping” order or when users need to change an implant library in the middle of the design workflow.

Smile Composer™ - more tools, easier to use, better designs
Dental System’s™ user-acclaimed Smile Composer™ just keeps getting better. In the 2013 release, Smile Composer™ has been updated with new tools, a new User Interface, new ‘Preview images’ in the library drop-down menu, and even more anatomy and smile libraries, including pridenta® pre-manufactured glass-ceramic crowns and PhysioStar®. Transition from margin line to anatomy and the Global Transformation tool - used for moving multiple teeth simultaneously - have been improved significantly.
Upper and Lower designs can now be moved at the same time – and the new rotate and scale functions make it easier than ever to adjust your designs of single teeth - simply click on the new control point above the tooth to switch between the two functions. The toolbox has been expanded with new Short Keys (1-7) for fast changing between different tools and an improved Occlusal attrition tool. (Some features are partly released in Dental System™ 2012).

Morph the Anatomy to Wax-up or Pre-preparation scans
A new powerful tool allows users to easily morph the anatomy layer to a Wax-up scan or Pre-preparation scan and thereby make the anatomy correspond to the original teeth or to a well-functioning temporary. The functionality is available whenever a Wax-up or Pre-operational scan is present and can be performed using the ‘Mirror’ icon in the Smile Composer™ step.

Crown Insertion Tool
The 2013 release introduces a unique Crown Insertion Tool that enables users to check for crown undercuts towards the neighboring teeth to ensure smooth insertion of the final crown. A color map instantly visualizes neighboring teeth undercuts and the new Threshold Sculpt tools make it easier than ever to adjust the crown for smooth insertion and optimal interproximal contact design.
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Updated and improved Sculpt Toolkit
Once again we have added more advanced dental design tools to the Sculpt Toolkit. The new ‘Threshold-based’ Add and Remove tools enable technicians to control the exact distance of the CAD design to the preparation die, the adjacent teeth, or the antagonist, and the ‘Precise Cut to Antagonist’ function helps to obtain an even more realistic-looking contact surface. Users also benefit from the new “Cut-to-antagonist” function for CAD design on the antagonist and the updated attachment tool that now includes the option to create holes in any coping or crown design – this is for example a useful feature when designing a coping with a screw hole for placement on top of a stock abutment.

New Post and Core design software
Dental System™ 2013 includes a completely new Post and Core solution with unique scanning and design workflows. Use the patented and specially designed scan-posts to capture post positions and depth from the model, and save time by designing all layers in a single workflow. By first designing the anatomy layer, technicians can model an optimally shaped Post and Core guided by the form and boundaries of the final crown. The software works with scans from both TRIOS® and 3Shape desktop scanners and can be used for even complicated cases involving parallel core design and multiple posts.

Improved design of Inlays, Onlays and Veneers
Now technicians can use Dental System’s Smile Composer™ to easily place the anatomy in their Inlay, Onlay and Veneer cases. An optimized algorithm automatically shapes and morphs the Inlay and Onlay surfaces to the remaining tooth, thereby ensuring high esthetic results with minimum need for adjustments.

Multilayer Design for full digital bridges
The Multilayer workflow has been improved with higher stability and a new edge design that enables multilayer bridges to be split in two real layers. In addition, a new algorithm ensures a guaranteed minimum thickness of crown anatomy edges to avoid ‘chipping’ during manufacturing. When selecting the ‘Enforce Shoulder’ option during the ‘Coping Design’ step, the software automatically generates proper shoulders for crown support.
High-esthetics with pre-manufactured glass-ceramic crowns
Enjoy a complete new approach to fully digital crown manufacturing using pre-manufactured crowns with multiple layers and colors mimicking the real tooth. The final restoration is designed inside the shape of the pre-manufactured teeth, thereby ensuring that the final restoration is always within the boundaries of the pre-manufactured teeth. The pre-manufactured teeth can be visualized in Smile Composer™ as design guidance. Pritidenta® pre-manufactured teeth library is included in Dental System™ 2013.

Anatomical copings and frameworks
A new ‘simple edge’ feature enables anatomical copings to obtain the same simple edge design as standard ‘inside-out’ copings for optimal milling performance. In addition, the 2013 release includes an improved feature to easily create Occlusal Stop on anatomical copings and frameworks to protect the crown from hard contact and ensure integrity of the ceramic material.

Upgraded Telescope design including secondary telescopes
The improved software for designing telescopes now allows technicians to design both primary and secondary telescopes simultaneously in a single workflow without rescanning. Separate files can be outputted for all layers for manufacturing. Optimized telescope design tools include visualization of angle between insertion direction and telescope direction and option to define maximum angle difference.

Screw-retained crowns and Anatomical abutments
With Dental System™ 2013 we introduce a new workflow for designing screw-retained restorations in Abutment Designer™. All types of abutments – Standard customized abutments, screw-retained Crowns and anatomical abutments – are now selected directly in the order form, followed by a new ‘Anatomy-First’ workflow for efficiency and optimal esthetics. A new design tool allows technicians to snap the abutment emergence profile to the crown anatomy to ensure a highly esthetic continuation of the crown onto the abutment emergence profile. Furthermore, technicians can enjoy updated tools for creating optimal screw-hole protections and limited cut-back on anatomical abutments.
Abutment Designer™ with expanded toolbox

The 2013 version of Abutment Designer™ offers an extensive range of new functionality, improved tools and more settings for faster and better customized abutment design. Now technicians always design the full anatomy first and visualize it directly in the abutment design process to ensure optimal esthetics. A new right-click option makes it possible to add (or remove) horizontal or vertical profiles during robotic abutment design enabling improved and more sophisticated design.

Users can also enjoy the new option to change implant kit during the design – a useful feature in situations where you suddenly need a 1-piece abutment instead of a 2-piece abutment due to clinical circumstances, and the improved possibility to keep design within the regulatory limitation.

Improved Implant Bars

It is now possible to combine different bar types in the same Bar design. With a new right-click option the user can select specific bar profile types for each segment of the bar. A new option has been added in the Dental System™ Control Panel allowing the technician to increase number of triangles (add extra points) and thereby improve the smoothness and finish of the manufactured bar.

Advanced implant bridges with gingiva (“Prettau style”)

The 2013 release also offers a brand-new workflow to virtually design advanced bridges – complete with gingiva, teeth, and implant interfaces. Use Smile Composer™ to design the anatomy and draw a single boundary curve to obtain an automatic proposal for the gingiva. Optionally, cut back selected areas of the teeth to prepare space for hand veneering and acrylic layer. Use the design as the temporary or final bridge. The design can be milled directly in Zirconia, titanium, PMMA, or other materials.
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RealView™ engine including 2D Image Overlay
Get a near photo-realistic visualization of the patient-case that includes not only the newly designed teeth, but also the scanned existing teeth and the gingiva. When combining the RealView engine with 2D image overlays of the patients, labs can offer dentists a “What-You-See-Is-What-You-Get” communication tool and enhance client-relations. Easily align 2D patient images with the CAD design and zoom in and out. Only partly released, final version will be available end of Q1, 2013.

Updated Removable Partial Denture workflow
The Removable Partial Denture design toolbox has been updated with a new Retention Grid tool to easily pan and rotate the retention grid patterns for optimal placement. In addition, the retention grid library has been expanded with a new ‘Rhombus’ grid pattern. Among the new tools you also find the option to control the resin gap width, thereby allowing technicians to design Removable Partials with a self-cleaning effect. New algorithms improve RPD fit through enhanced precision of the 3D surface, and the Curve (spline) validation functionality checks curves and highlights problematic sections to be adjusted during design. (Some features are partly released in Dental System™ 2012)

Ground-breaking Digital Denture Design
The completely new Denture Design™ software brings digital precision and efficiency to a traditionally technique demanding process. Scan the wax rim, upper and lower gypsum model to obtain correct case setup. By combining the flexibility of 3Shape’s Smile Composer™ with the unique Gingiva Creation Tool, technicians can model highly esthetic and functional dentures while significantly shortening the design step. Place the teeth with Smile Composer™ and quickly adjust all teeth simultaneously. Draw the outer boundary of the denture and the system automatically designs the gingiva shaped to fit the teeth. All sculpt and edit tools can easily be applied to add anatomical details to the gingiva with your own artistic touch.
What’s new in Dental System™ 2013

Improved Model Free Crown Workflow
Dental System™ 2013 includes an improved workflow for Model Free Crown production based on impression scans, TRIOS® scans, and 3rd party digital impressions. As the ‘scan segmentation’ step is now fully integrated in the CAD design software, the workflow has fewer steps and is faster and more intuitive to use.

Connect to any TRIOS® with the TRIOS® Inbox
The new TRIOS® Inbox added to Dental Manager™ enables labs to receive scans from TRIOS® Digital Impression Systems worldwide when lab and dentist are connected through 3Shape Communicate™. Incoming cases are accepted or rejected with a single click and a notification is immediately sent back to the dentist’s TRIOS® system. TRIOS® orders are quickly identified in Dental Manager™ with the new ‘TRIOS® Scan’ icon added to the Dental Manager™.

Improved 3Shape Communicate™
3Shape Communicate™ offers labs and dentists an advanced communication tool that lets them share case information and 3D designs on-line. Through Communicate™, labs can provide better services, enhance both dentist and patient satisfaction, and cement business relationships with their dentist-clients. With the improved version Labs and Dentists can easily connect – “facebook style”. New optimized communication protocol allows faster transfer of 3D data and an improved 3D viewer enables improved 3D experience. A new Communicate™ column in Dental Manager™ keeps you updated with ‘Communicate Status’ for each order and informs you when new messages or approvals are received from the dentist.
New Digital Model types for Crown and Bridge
Technicians can now design three different types of digital lab models for crown and bridge cases. Choose between Sectioned (dies ditched) models, Sectioned (Cut) models, and Unsectioned models with the option to produce dies separately. More than one model type can be selected in the same order. Furthermore, Model Builder™ now supports the option to cut digital model with final crown design to ensure the restoration does not collide with the gingiva area of the model. Model Builder™ now includes a new articulator interface for design of digital models to be used with 3Shape’s own articulator. (Some features are partly released in Dental System™ 2012)

Advanced Digital Implant models
The new Model Builder™ enables users to choose between two different types of digital implant models depending on indication type and personal preferences. You can either design your Implant Model with interfaces for integrated implant analogs, or you can design the model with the abutment inserted as a die (i.e. no need for implant analogs). Following the design of the customized abutment the software automatically adjusts the digital model to fit the actual abutment design.

Transfer exact position to virtual articulator
Transfer the exact jaw position from the physical articulator into the Dynamic Virtual Articulator. Use the specially designed 3Shape Transfer Plates, together with your 3Shape scanner, to capture the exact 3D position and bring it into the software. (Some features are partly released in Dental System™ 2012)

Create your own Dental Manager™ buttons
Dental Manager™ now allows you to create your own customized buttons and associate them with pre-defined actions. Labs can use their customized buttons for launching CAM software, for launching Track ‘n Trace systems, for 3rd party integration or other actions of your own choice.
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Dentist dependent CAD settings
A new option makes it possible to create specific Dental System™ design settings for each of the labs’ dentists. When a specific dentist is selected in the Order Form, the predefined dentist parameters are automatically used for the order. Design settings can be defined for each indication and for each material, e.g. cement gap and extra cement gap settings for a zirconia coping. The design parameter settings are found under ‘Dentist Settings’ in the Control Panel.

New solution for the smaller lab
To supplement the two existing Dental System™ packages - Standard and Premium – 3Shape introduces a new subscription called ‘Dental System™ Full Contour’. The indications and tools in the ‘Full Contour’ package are optimized for dental labs that focus on full-contour modeling like full contour crowns.

Updated Online Help System with embedded training videos
Dental System™ 2013 comes with integrated Online Help in 12 languages. Users get instant access to detailed instructions directly from the software and are automatically sent to the relevant section in the manual. Embedded Training Videos can now be started directly from the relevant chapters in the Online Help manual, carefully guiding users through the different workflows and design tools. The Download Center in Dental Manager™ gives access to all the Online Help manuals in all 12 languages, training videos and other training tools.

Auto-testing for increased software stability
With the release of Dental System™ 2013, 3Shape also introduce a new initiative to ensure high software stability. Everyday 200 cases sampled across indications, materials and countries are automatically tested in Dental System™ using 3Sape’s new Auto-Test server setup. The manufacturing output – both STL files and text files - are compared against validated references and this ensures that most issues are identified and corrected on a daily basis before release of any software patches.
What’s new in Dental System™ 2013

Version 2.8.8.5 (June 2013)
The following new features and solved issues are available in Dental System™, version 2.8.8.5:

General
• Support for Windows 8.
• Special focus on bug fixing. Approximately 100 bugs fixed.

Scanning
• Several improvements to model scanning:
  - Support for Upper and Lower RPD cases in the same order.
  - Support for texture scanning of Abutments and Post & Cores.
  - Possible to enable or disable texture scanning when starting the scanning process.
• Various issues fixed, including a problem with the ScanServer version which could cause an error in ScanIt Restoration.

CAD design
• CAD Points can now be used for Model Builder (TRIOS and 3rd Party scans).
• New possibility to easily add, scan and align a pre-preparation model to an existing order e.g. containing a try-in bridge. Simply copy the existing order, add the pre-preparation scan in the order form, start the scanning and easily morph the original design to pre-preparation scan.
• Possible to skip Die Interface step during design. Enable or disable using the “Show Die Interface step” check-box for your Site in Control Panel (enabled per default).
• New visualization slider for showing hole-closed areas on TRIOS scans in Smile Composer, Sculpt and 3D Preview in Dental Manager.
• Cut-to-neighbor functionality added for Screw-retained crowns.
• Improved “Remove Undercuts” functionality for Post and Core cases to avoid the issue with big undercuts areas.
• Several improvements to RPD design, including a new retention type “Resin Gap” and a possibility to add space between the model and RPD frame in Pre-manufacturing step.
• Possible to have 2 aligner spaces for multilayer bridge design.
• “Drill hole diameter” added to Attachment settings in Control Panel and to ImplantDirectionPosition.xml file in CAM output.
• Optimized feature for placing and cutting the anatomy design inside CAD blocks:
  - Adjustment of blocks and sprues is moved to the 3D window.
  - Rotation handles of blocks are now controlled by the “Milling machine axis” parameter configurable in Control Panel.
  - Auto-selection of block size based on the crown size.
  - Mandrill models can be added in Control Panel and visualized during design.
• Possible to automatically launch a 3rd party CAM application and generate CAM output after finishing CAD modeling. Requires configuration in Control Panel.

Dental Manager
• Improved Dentist Mapping when receiving orders from unknown senders in TRIOS and Manufacturing Inbox:
  - When accepting an order from an unknown sender, the sender is automatically added to Control Panel
  - If Auto Accept option is enabled, orders from unknown senders remain in TRIOS or Manufacturing Inbox with a message informing that manual handling is required.

Version 2.8.8.4 (May 2013)
The following new features and solved issues are available in Dental System™, version 2.8.8.4:

Scanning
• Release of ScanSuite version 1.0.6.1 with support for D900.
• Various improvements to Texture Scanning.

CAD design
• Start-up speed has been improved significantly - in particular for systems with many implant libraries.
• Dental System™ Installer has been optimized to speed up the installation process (2-3 minutes saved for a new installation).
• New Shortcut Keys for Sculpt Toolkit. Use Q-W-E-R-T-Y keys to switch between active tools.
• The RealView Engine™ workflow now starts with the “Cut-Out” step, followed by the “Alignment” step.
• Possibility to rotate the titanium interface for 2-piece abutments. Requires configuration in Control Panel. Full support for non-circular abutment base models.
• New option to create a screw hole through all layers during multilayer abutment design.
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- New options to enable/disable Angled Screw Hole functionality in the Control Panel and to define maximum angle.
- Optimized design for Post and Core cases with anatomy on top:
  - In margin line step, the Post and Core margin line is edited as default.
  - New ‘Anatomy offset’ option in Core Design step to make the Core top follow the anatomy shape.
- Various improvements to Full Dentures module, including possibility to adjust ‘Glue space’ between each tooth and the denture base model.
- When working on Upper + Lower RPD cases it is now possible to see the active jaw and switch between jaws in the Order Overview window (top left corner).
- Several improvements for placing and cutting the anatomy design into one or multiple CAD blocks. New set of standard block models added to the Dental System™ installer. Possible to remove blocks as well as cutting planes and to change the width of cut between the cutting planes.
- Possibly to have 2 aligner spaces for multilayer single crown design.
- New possible to create lingual bands for single wax-ups.
- Optimized Connector feature to speed-up software when working on cases involving multiple connectors.

Dental Manager™

- New possibility to print Order Forms.
- Several improvements to 3Shape Communicate™, including handling of dates. “Creation date” is now set to the current date when order the is received in Dental Manager™ and a new “Scan date” field has been added.
- Improved Dental Manager™-CAMbridge™ integration:
  - CAMbridge™ manufacturing process method is added to the Control Panel.
  - Complete Cut-In-Block information is now transferred from Dental Manager™ to CAMbridge™.
- New option to rename implant system categories in the Control Panel.

Version 2.8.8.3 (May 2013)
This version has been merged with version 2.8.8.4

Version 2.8.8.2 (March 2013)
The following new features and solved issues are available in Dental System™, version 2.8.8.2:

Scanning

- Full Support for D900, including support for new Multi-Die fixture and RealColor scanning.
- Various workflow improvements to the model scanning workflow, including:
  - Auto-selection of scan area after preview scan
  - Auto-alignment of Upper and Lower arches to bite scan

CAD design

- ‘What’s New’ highlights are now presented during Dental System™ installation/update.
- Full support for Color Scans from D900 scanner and TRIOS® Color.
- Optimized model free workflow reducing the number of steps needed to complete the anatomy.
- Optimized alignment and new possibility to rotate patient images when using RealView Engine™.
- Several improvements to Abutment Designer™, including optimized shoulder on the emergence profile functionality.
- When design limitations are violated in Abutment Designer™ (e.g. abutment too high), a warning message explains the problem and visualizes the problematic area directly on the design (red marking).
- New implant libraries added to Dental System™ installer (requires dongle enable for installation):
  - Thommen Medical, Conelog and Camlog library are updated
  - Wital implant library has been renamed to Prowital
  - Prowital implant system with extended interfaces is added
- Possible to switch between active ‘Implant Bridges With Gingiva’ by clicking on the implant bridge in the Order Overview window (top left corner).
- Various improvements to Full Dentures module, including a new option to avoid collision and gaps during arch transformation in Smile Composer™
- New option in RPD module to enable or disable base to attachments for extra strength.
- When placing final design inside a block, a new feature allows you to move and rotate the blank and select blank-shader material.
- Various issues fixed, including a problem with ‘Remove Undercuts’ option for Smile Libraries with linked Frame libraries.
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Dental Manager™
- Optimized Dental Manager performance to reduce application start-up time for systems with many implant libraries.
- Possible to preview clinical photos of the patient directly in the Order Form.
- Ability to save default indications for each layer in the Order Form, e.g. make Coping or Anatomical Coping default for frame layer.
- Ability to save default settings for abutments and bridges, e.g. select specific abutment kit as default in Abutment orders.
- Manufacturing Inbox and TRIOS Inbox™ can now handle orders containing special characters.
- Possibility to copy Implant kits in the Control Panel for easy and fast creation of additional Implant Kit variants.

Version 2.8.8.1 (February 2013)
The following new features and solved issues are available in Dental System™, version 2.8.8.1:

CAD design
- Optimized Drill Compensation feature on Die Interface step.
- “Save” and “Measurement” buttons has been moved to right toolbar.
- New functionality implemented in the Insertion Direction feature: Place mouse over arrow-buttons to visualize change of direction in the design window.
- Maintain teeth position when switching smile libraries in Smile Composer™.
- Improved Morph of anatomy to Pre-preparation/Wax-up in Smile Composer™.
- Improved Plane Cut tool now allows simultaneous cut between two teeth.
- New option in Sculpt Toolkit to force design inside pre-manufactured blank.
- Option to design gingiva for a wide range of indications, e.g. crowns, pontics, and anatomical abutments.
- Introduced “Thickness map” and “Minimum Thickness” sliders for abutment design. Minimum thickness is based on the “Minimum wall thickness” defined on the material in the control panel.
- Introduced ‘Cut to antagonist’ functionality for Parametric abutments.
- Option to add extra control points on 2D bar profiles for sophisticated implant bar design
- Several improvements to Full Dentures module, including new sliders for jaws and teeth, wax rim and symmetry planes.
- Possible to set common insertion direction for grouped Post & Cores.
- Optimized virtual camera perspective for realistic view of the scan and design.
- Various improvements to RealView Engine, including support of two or more patient images.
- New option to lift frame and anatomy designs from the active jaw in “Save” step.
- Completely new workflow step allowing the user to place restoration design inside a block and add the sprue:
  - The step is optionally enabled for each material in Control Panel.
  - Add your own block CAD files in Control Panel.
  - Split long span bridge designs into multiple blocks using Plane Cut tool.

Dental Manager™
- Option to start 3rd party applications with custom parameters, e.g. pass the folder of the manufacturing output to the CAM software.
- “Auto Accept” option added to TRIOS Inbox™.
- TRIOS Inbox™ is now a Site Option instead of a regular license.
- Possibility to easily send scan for design at another site using the new “Send to customer” option and Manufacturing Inbox. Right-click the order in Dental Manager™ and select “Send to customer”.
- Improved Dental Manager™-CAMbridge™ workflow (support of multiple items in order elements).
- Changed default Cement gap and Extra cement gap parameters in Control Panel for Inlays to 0.050 mm and 0.060 mm accordingly.
- Various improvements to ScanSuite™ (version 1.0.5.6).
- Various issues fixed.
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