



Features of the Tiops Program Series

- The Tiops Cephalometric Analysis Program offers numerous features unique to this cephalometric program. The program provides a great help to the clinician in planning orthodontic treatment and includes the following features:
- Cephalometric morphologic analysis of individual headfilms using conventional digitized images or digital images
- Cephalometric growth and treatment analysis with direct superimposition on the computer screen
- Growth and treatment simulation including
 - Growth without treatment
 - Growth and treatment with or without extractions
- Orthodontic-surgical correction
- Surgical planning with articulator integration
- Superimposition for analysis of facial growth with or without treatment
- Cranial Base superimposition
- Maxillary superimposition with or without occlusogram
- Mandibular superimposition with or without occlusograms
- Occlusal analysis of arch form and space conditions based on individually adjusted arch form (by the clinician)
- Print out of tracings with more stages with occlusograms in maxilla and mandible aligned to the incisors in each arch and stage

Additional features include:

- Growth simulation values based on
 - Chronological age or
 - Stage of skeletal maturation when available
 - ✓ TW2 method based on hand-wrist radiographs
 - ✓ Own method
- Estimate of final stature height based on TW2 method
- Estimate of dental age
- Cephalometric analysis standard values corrected for age and sex
- Individual analysis by request
- Bolton discrepancy measurements

New Features of the Tiops4 Program

- All images in digital format
- Integration of the cephalometric headfilm and the lateral facial photo
- Improved overall graphical performance
- Easy picture repositioning on the computer screen
- Outlines drawn with intelligent curves
- Import of existing Tiops2000/2005 files into TIOPS4
- Improved archive function (File) for easier data storage and retrieval
- Integrated statistical function for mean tracings/analysis and data export to Excel
- **Simplified 3D cephalometrically assisted surgical articulator planning (Separately described)**



New and Improved Tiops4 Functions

Changes from Version 3.2.0 to 3.3.0

Changes from Version 3.3.0 to 3.4.0

Digitization

- Fixed or variable tooth size with simplified registration
- Repositioning of picture (optional) during digitization brings the landmarks in focus
- Landmark definition pop-up pictures during digitization (optional, automatically size adjusted, included under landmark correction)
- Reference line and grid fixers are improved for greater consistency. Any two stages can be compared
- Image adjustment using picture filters now available during digitization
- Landmark list corresponding to the analysis view opens immediately at the end of digitization enabling correction of single landmarks
- The enlargement factor can now be calculated by means of image 30/40/50 mm rulers
- New Regimens are now available (Snake, Calibrate)
- After digitizing the last landmark a dialog is displayed
- New Regimens are introduced (RightLeftFront, Surgical)

Superimpositioning

- Functions for opacity change, toggle between current and reference stage pictures and show/hide tracings
- Improved Zoom capabilities
- Automatic generation of certain landmarks
 - OrthodonticAnalysis --> spg (supra pogonion)
 - SurgicalAnalysis --> spg, sm ,iii, aii, idr, idrl ,mim ,rim, pop, pm , sdr, sdrl, msm, rsm, nl1, nl2, pal, ss, sp, isi ,asi
- A theoretical Maxillary Reference Line is calculated following the mandibular superimpositioning procedure to facilitate the maxillary superimpositioning
- Jaw view is updated simultaneously during reference line correction
- When surgical superimpositioning the anterior maxilla without maxillary sectioning the reference landmarks are automatically accepted

Simulation

- Improved lip prediction
- Differentiated maxillary growth according to skeletal age
- New label named 'Description' permits entering operator chosen text
- New parameter group named 'LipAdjustment' allows artistic changes of the lower lip
- New label in the 'ToothAdjustment' group permits vertical change of the occlusal plane

Photo

- Automatic transparent background to facilitate alignment of photo and radiograph
- Facial photo in focus irrespective of picture size
- Photo on X-ray view
- Image adjustment using Picture Filters
- An included photo can be deleted (Stage Menu)
- A "superimpositioning fixer" is introduced
- The X-ray soft tissue contour is displayed as a guide during the superimpositioning procedure
- The Photo and the X-ray can be displayed together as a superimposition
- The photo can be mirrored

Variables

- New variable definition files (Changes, Growth type, Photo)
- The Variable Menu includes quick change between definition files and headings
- Display of variables units in the VariableView
- Stage one may be used as the reference for all additional stage differences
- When correcting landmarks the focus on a specific variable in the VariableView is preserved
- All variables are simultaneously updated when changing any parameters or landmarks

Tracing Displays

- Upper and lower jaw redefined for more accuracy
- Improved surgical cut visualization
- The tracings can be hidden when displaying X-rays/photos (View Menu)
- The parameter values displayed on the printouts includes variable changes and extraction choices
- Surgical cut are hidden when choosing no change
- The default setting of the cranial reference line to horizontal is optional and can be deselected

Screen Capture

- The content of the main cephalometric window can be saved as a .bmp file using Tools/Dump Main Window
- When altering the size of the main window the aspect ratio is displayed and the screen grab is saved according to this ratio

Image File Organisation

- The image files of the actual patient file can be filed automatically by the so called Consolidation Patient Files procedure

Graphics

- Automatic adjustment of window size and picture zoom by different screen resolution settings
- Uncomplicated picture zoom features

Additional Program Features

- Free choice of '.' or ',' as decimal separator
- Image zoom and window size are automatically set according to screen resolution
- F10/F11 zooms in/out in 10% steps and repeated right-clicks are toggling between full size and 75% zoom
- The hierarchy of the Data Input Panel is highlighted
- The hierarchy of the File Manager (Tools) is improved to enable deleting of unwanted file elements
- Millimeter measurements in the main window as well as in the individual jaw window

Statistics

- The "Find Patient" function offers additional search parameters

Program Menus

- The labels in the menus are improved for better understanding and several new shortcuts are introduced for faster navigation

View Menu

- Most of the (many new) selections can be permanently set in the Tools/Environment Options label

Digital X-rays

- The X- and Y resolution (Pixel Aspect Ratio) can now be set separately to correct DIGORA scanner problems
- The program can read JFIF as well as EXIF headers for .jpg files and .bmp headers containing resolution information

Import of Tiops2005 Files

- The Tiops2005 files can be imported/converted as single files as well as a complete directory and saved as Tiops4 files (.t4xd)

Program Installation and Update

- The free program update function from www.tiops.com is now adapted to Vista/Win7
- The installation procedure is adapted to network installation
- The Tiops4 program can be installed as standalone windows application as described in <http://www.tiops.com/downloads/T4UG/T4InstallationsnotesUS.pdf>

Integration with Other Programs

- The Tiops4 can be opened using a command line that includes certain patients parameters from other programs