Printed Documentation

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Ortho Control Panel 2012



User Manual

Preface

3Shape Ortho Control Panel[™] is the primary control tool for all the applications of 3Shape Ortho Systems: ScanItOrthodontics[™] and ScanIt Ortho Impression[™], OrthoAnalyzer[™], ApplianceDesigner[™] that allows you to view and manipulate various basic system settings and controls, such as specifying data folders, tooth notation system, analysis tools and licensing systems and the relevant construction elements.

OS-OCP-1.4.0.10-A-EN

1 The OCP User Interface

1 The Ortho Control Panel User Interface

Ortho Control Panel employs a Microsoft Windows[™] -based graphical user interface that allows you to view the settings modifications on screen while they are being made.

Ortho Control Panel is started by double-clicking the Ortho Control Panel desktop icon \mathcal{M} or via the WindowsTM Start menu: Start \rightarrow All Programs \rightarrow 3Shape \rightarrow 3Shape Ortho Control Panel. When the application is started, there appears a main window of the program displayed on the image below. It consists of:





A detailed description of the toolbars is provided in sections below.

1.1 Control Toolbar

The Control toolbar contains four basic control functions:

W ome	Displays the home page.
<u>B</u> ack	Brings you back to the previous step.
	Saves the current changes in the settings.
(?) H <u>el</u> p	Opens the user manual.

2 Executing the Program

2 Executing the Program

3Shape Ortho Control Panel is started by double-clicking the Ortho Control Panel desktop

icon \mathcal{M} or via the WindowsTM Start menu: *Start* \rightarrow *All Programs* \rightarrow *3Shape* \rightarrow *3Shape Ortho Control Panel*. When the application is started, there appears the screen described and illustrated in the previous chapter <u>The Ortho Control Panel User Interface</u>.

At this stage, there are options available for you as a starting point:

- System settings
- Workflow settings
- Administrative settings
- Construction elements
- Custom report configuration
- Standard analysis
- Custom analysis

To continue, press the icons in the Main window:



Note: For any change to the Ortho Control Panel to take effect, it needs to be saved in the Ortho Control Panel and the relevant application (i.e. ApplianceDesigner, ScanItOrthodontics, ScanItOrthoImpression or OrthoAnalyzer) has to be restarted.

2.1 System Settings

2.1 System Settings



System settings

As soon as you click the **System Settings** icon, the main window opens up displaying six tabs with different system settings available for editing. You will have to scroll down to view all of them:

- OrthoAnalyzer
- ApplianceDesigner
- ScanItOrthodontics
- ScanItOrthoImpression
- Data folder
- Export
- Miscellaneous
- Dongle license server

The **Tasks** menu displays the three main tasks currently available for completion:

- Set OrthoAnalyzer path
- Set ScanItOrthodontics path
- Set ScanItOrthoImpression path
- Set ApplianceDesigner path

Follow the hints provided in the following chapters to complete these tasks.

2.1.1 OrthoAnalyzer

View the **OrthoAnalyzer** tab of the *System Settings* window identifying the path for the OrthoAnalyzer application in it (see image below).

Click **Set OrthoAnalyzer path** on the **Tasks** menu or click the **Browse** button to identify the path. Set the OrthoAnalyzer path in the *Browse for folder* window that appeared. The default path would be *C:\Program Files\3Shape\OrthoAnalyzer*.

Tasks

)) Set OrthoAnalyzer path,

System Settings

 Set ApplianceDesigner path Set ScanItOrthodontics path Set ScanItOrthoImpression path 	OrthoAnalyzer OrthoAnalyzer is currently installed in folder C:\Program Files (x86)\3Shape\OrthoAnalyzer\	Browse
	Standard view Front view Jaw state Close	
	Cases compare auto-alignment □ Use 2D tooth length Save format Use auto save during modelling 300 € seconds	

OrthoAnalyzer settings

In this section you can make the following application settings:

Option	Function
Ortho Analyzer	The path to the folder, where Ortho Analyzer is installed. Use Browse

folder	to change it.
Standard view	Allows you to select from the drop-down menu the default position of
	the model during the modelling process.
Jaw state	Sets the default position of the jaw.
Cases compare auto-alignment	Allows the Model set compare function in Ortho Analyzer to automatically run an alignment algorithm on the two models when starting the function.
Use 2D tooth length	If checked, uses the traditional two-dimensional measuring system, which would enable measuring dental distances using the user point-of- view as a measuring plane (1).
Save format	Allows you to select the format in which the model will be saved (2).
Use auto save	If checked, allows you to set the frequency with which the model will be
during modelling	saved automatically during the workflow.

(1)



The method for placing the 2D (38.00) length looks identical to that of the 3D length (51.33)

Illustration of the differences between the 2D (38.00) and the 3D (51.33) lengths

(2) The formats available for saving your models are:

Format	Option
STL	Standard open format.
DCM	3Shape compressed format. Gives smaller files, but not supported by external software.
PTS	Only the raw scan points are saved. However, the points will still be processed (temporarily) in order to allow alignment.
PTS Cyra	Special point cloud format (for very special cases only).
VRML	Is an alternative format for saving models. It is primarily used for

saving face scan models in 3Shape software.

2.1.2 ApplianceDesigner

View the **ApplianceDesigner** tab of the *System Settings* window identifying the path for the ScanItOrthodontics application in it (see image below).

Click **Set ApplianceDesigner path** on the **Tasks** menu or click the **Browse** button to identify the path. Set the Appliance Designer path in the Browse for folder window that appeared. The default path would be *C*:*Program Files*\3*Shape*\ *ApplianceDesigner*

Tasks	ApplianceDesigner		*
 Set OrthoAnalyzer path Set ApplianceDesigner path Set ScanItOrthodontics path Set ScanItOrthoImpression path 	ApplianceDesigner is currently installed i C:\Program Files (x86)\3Shape\A	n folder pplianceDesigner\	
	Standard view	Front view 💌	Browse
	Save format Use auto save during modelling	STL STL STL	

Appliance Designer settings

Option	Function
Appliance Designer folder	The path to the folder, where Appliance Designer is installed. Use Browse to change it.
Standard view	Allows you to select from the drop-down menu the default position of the model during the modelling process.
Save format	Allows you to select the format in which the model will be saved.
Use auto save during modelling	If checked, allows you to set the frequency with which the model will be saved automatically during the workflow.

For more information on **Save format option** see the chapter about OrthoAnalyzer.

2.1.3 ScanItOrthodontics

View the **ScanItOrthodontics** tab of the *System Settings* window identifying the path for the ScanIt Orthodontics application in it (see image below).

Click **Set ScanItOrthodontics path** on the **Tasks** menu or click the **Browse** button to identify the path. Set the ScanItOrthodontics path in the Browse for folder window that appeared. The default path would be *C*:\Program Files\3Shape\ SIOrthodontics.

Tasks	ScanItOrthodontics		*
 Set OrthoAnalyzer path Set ApplianceDesigner path 	ScanItOrthodontics is currently C:\Program Files (x86)\35	installed in folder hape\SIOrthodontics\	
 Set ScanItOrthodontics path Set ScanItOrthoImpression path 	Save raw scan data	V	Browse
	Cut and close base		
	Reduce file size to Transform maxillary	 ✓ 60 ♣ % ✓ 	
	Save format	DCM 🗸	

ScanIt Orthodontics settings

Option	Function
Save raw scan data	Saves the intermediate results as raw (point cloud) data. This allows you to get back to the scanning process without having the scan.
Cut and close base	Cuts the base and align its contours automatically.
Reduce file size to	Define the extent of decimation (%) to visualize the scan decimation along the way.
Transform maxillary	Transforms the upper model if only the maxillary model is scanned.
Save format	Sets the format in which the model will be saved (see the chapter OrthoAnalyzer for details).

2.1.4 ScanIt Ortho Impression

View the **ScanItOrthoImpression** tab of the *System Settings* window identifying the path for the ScanIt Ortho Impression application in it (see image below).

Click **Set ScanItOrthoImpression path** on the **Tasks** menu or click the **Browse** button to identify the path. Set the ScanItOrthoImpression path in the Browse for folder window that appeared. The default path would be *C:\Program Files\3Shape\ ScanItOrthoImpression beta*

Tasks			
)) Set OrthoAnalyzer path	ScanItOrthoImpression		*
 Set ApplianceDesigner path Set ScanItOrthodontics path 	ScanItOrthoImpression is currently inst C:\Program Files (x86)\35hape\S	talled in folder 5canItOrthoImpression\	
Set ScanItOrthoImpression path			Browse
	Save raw scan data		
	Reduce file size to	40 🛞 %	
	Save format	DCM	



Option	Function
Save raw scan	Saves the intermediate results as raw (point cloud) data. This allows you
data	to get back to the scanning process without having the scan.
Reduce file size	Defines the extent of decimation (%) to visualize the scan decimation
to	along the way.
Save format	Allows to select the format for the scan (see chapter OrthoAnalyzer for
Save formal	details).

2.1.5 Database

View the **Data folder** tab of the *System Settings* window identifying the path for the OrthoData in it. The OrthoData folder contains the input files for the 3Shape Orthoapplications.

Click the **Browse** button and set the OrthoData path in the Browse for folder window that appeared. The default path would be *C*:*Program Files**3Shape**OrthoData*.

Database			*
Microsoft® SQL Server® location	localhost	This PC Modify Browse	
Additional parameters			
SQL Server® Named Instance:	ORTHOSYSTEM	Default Modify	
User:	Sa]	
		-	
			Test connection
Data folder is currently defined to folder C:\ProgramData\3Shape\OrthoData	١		

Browse

Database settings

Option	Function
Microsoft SQL	Indicates the PC with the SQL server. You can change to another
Server location	PC by clicking Modify or Browse .
SQL Server Named	Indicates the named instance of the SQL server on the PC. There
Instance	can be more than one SQL server named instances on one PC.
User	Indicates default user of the system (1).
Data folder	Indicates the path to the data folder.

(1) You can set the new password for a user and the SQL Server Named Instance information by clicking the *Modify* button:

	SQL Server instance settings		
	Set SQL Server instance, u	user and password	Modify
	SQL Server® Named Instance:	ORTHOSYSTEM	
	User:	sa	
	Password:	•••••	
1		OK Cancel	

Modifying additional parameters

It is possible to add some customized parameters to the **Patient info**, **Model set info** and add list of **Clinics** in the following sections:

Patient info custom properties

1
Add
Doloto
Delete
Default values
Deredic Foldeb

Model set info custom properties



Clinics

Setting parameters for Patient and Model set info and Clinics

Click the **Add** button to fill in customized information in the corresponding fields:

3shape test		Add
"3shape test" custom property default values	Delete 1	
"3shape test" custom property default values	(2)	Default values
Enter default value		
Default value (3)	Delete	Add Delete
test	OK Cancel	
De De		

After adding a new item click the **Default values** button (1) to customize its parameters. The *Default values* form popups. Click **Add** (2) to indicate the values (3). Click **OK** to save them.

Mark the **Automatic patient-ID** checkbox to automatically generate the IDs:

Define template for Patient-ID generation						
Automatic Patient-ID generation	2					
Patient-ID template field 1:	Date 🔹	using	All	characters		
Patient-ID template field 2:	Time 💌	using	All	characters		
Patient-ID template field 3:	Last name 🔹	using	All 🕃	characters		
Patient-ID template field 4:	Unspecified 🗸	using	All 🖗	characters		
Patient-ID template field 5:	Unspecified 🗸	using	All	characters		
Patient-ID template field 6:	Unspecified 👻	using	All 🖗	characters		
Patient-ID template field 7:	Unspecified 🔹	using	All 🖗	characters		

Choose the number of characteristics by clicking at the arrows A

The **Define template for ModelSet-ID generation** section allows to edit the settings for the models templates:

Define template for ModelSet-ID generation

Automatic ModelSet-ID generation 🛛				
ModelSet-ID template field 1:	Date •	using	All	characters
ModelSet-ID template field 2:	Time •	using	All	characters
ModelSet-ID template field 3:	Last name 🔹	using	All 🕃	characters
ModelSet-ID template field 4:	Unspecified 🔹	using	All	characters
ModelSet-ID template field 5:	Unspecified 🔹	using	All	characters
ModelSet-ID template field 6:	Unspecified 🔹	using	All	characters
ModelSet-ID template field 7:	Unspecified 🔹	using	All	characters
ModelSet-ID template field 8:	Unspecified 🗸	using	All	characters

2.1.6 Export

The Export section allows you to make changes the settings for the Export option in the Ortho System Appliance Designer and Ortho Analyzerfiles destination, unique file names etc.



1. Export Model as

Save as		×
Save models as		\$
Save upper model Upper model filename:		
C:\ProgramData\3Shape\OrthoData\2001\1\Maxillary_export.dc	Browse	e
Save lower model Save model Save filename:		
C:\ProgramData\3Shape\OrthoData\2001\1\Mandibular_export.c	Browse	•
Save virtual setup as		۲
Save occlusion as		*
Duplicate model set		۲
Save	Can	ncel

Change file type / extension (STL or DCM) and Change file name (standard or unique ID).

2. Exporting Models, Patients or patients groups out of the Ortho System:

• Export Patient from Patient Browser interface



• Export Model Set from Patient Browser interface

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Open patient case					
Patients TRIOS					
	یک 🔦 🔊	search Search)	Search	Advanced search
Export to file Export TRIOS models without	patched areas		-	(con-	
Export to CAMBridge Export to ABO		Right view	Left view	Right buccal vi	ew
2013-06-26_13-59_3 TRIOS_FN_001 TRIOS_LN_ 2013-06-26_13-59_TRI	Left buccal view	Front view	Rear view		
< III >>	Views Screen snap	pshots			
	Patient II Model set II Status Model set external II Model set operator Model set operator	2013-06-26_13-59_TRI(2013-06-26_13-59_TRI(Unprepared OperatorMax	DS_LN_001 DS_LN_001 №	Model set date 10del set scan date 10del set scan time	12/4/2012 12:51:01 P 12/4/2012 12:51:01 PM
	Houer set confinen	- Habs order comment #	-001	3sł	nape

• Export Patient Group

	Open patient case						
Pal	tients TRIOS						
		چ 🏷 🍽	• 💽 🐼	Pat	ient search Search	R	Search Advanced search
	Patient Selection		Mandibular vie	ew Maxillary view	Right view	Left view	Right buccal view
	P 3 2013-06-26 TRIOS_FN_001 2013-06-26	Views	set buccal vie	ew Front view	Rear view		
		Edit model s	et el set l set	spanchotz			
		Refresh prev	iews	xport to file			
		Import from	file 🕟 E	xport TRIOS models wit xport to CAMBridge xport to ABO	hout patched areas		зshape⊳
	Export		~			_	
	Use ModelSet	folder for exp	oort 🔽				
	Use default ex	xport folder				Bro	wse
	Use qualified r exporting mo	names when dels					
	Export of TRI patched areas	OS models wi s into a single	th 📃 archive				

Export section

Option	Function
Use ModelSet folder for export	If checked enables exporting files to Model Set folder. This will apply all available Export options: Export to File, Export TRIOS Models without patched areas, Export to CAMbridge, Export to ABO.
Use default export folder	If checked allows you to set the path to the default export folder (by clicking Browse).
Use qualified names when exporting models	If checked allows to give the exported models unique names such as Patient and Model Set ID when exporting models. If this is unchecked, the model sets

	will have standard names such as 'Maxillary.XXX' and 'Mandibular.XXX'
Export of TRIOS models with patched areas into single archive	If checked, enables exporting of TRIOS models with patched areas into single archive.

2.1.7 Miscellaneous

This section allows you to set the additional parameters for the system.

Miscellaneous	
Language	English
Tooth index system	FDI Notation 👻
Gradient background color top	
Gradient background color bottom	
Basic model color	Restore factory colors Restore factory shaders
Shader material	Gypsum 👻
Shader material for teeth	Tooth
Shader material for tissue	Tissue
List patients by name	
Allow patient and case info editing	
Allow patient and case deleting	
Allow multiple patients and cases deleting	
Allow to export raw scan data	
Automatic patients search when opening form	
Default unprepared model set doubl click action	e Open model set 👻
Large previews	
Previews and screenshots format	bmp 👻
Enable high resolution models preview generation	
High resolution preview size	512 💮 pixels
Save signed copies of scanned models	
Allow updating patient info from command line	
	Miscellaneous settings

Language	Allows you to set the language for the program (e.g. English, French, etc.).
Tooth index system	Indicates the Tooth index system that will be used in the applications (1).
Gradient background color top	Indicates the gradient background color of the top of the screen in the applications.
Gradient background	Sets the background color at the bottom of the screen in the
color bottom	application.
Basic model color	Sets the basic color for the model in the applications.
Shader material	Allows you to select the material for shader.
Shader material for teeth	Defines the mode for the virtual texture visualization of the teeth (2).
Shader material for tissue	Indicates the mode for the virtual texture visualization of the tissue.
List patients by name	If checked, lists the patients by name, otherwise, they are sorted by ID.
Allow patient and case info editing	If checked, allows editing of patient information and case information.
Allow patient and case deleting	If marked, allows deleting of patient and case.
Allow multiple patients and cases deleting	Allows deleting of multiple patients and cases.
Allow to export raw scan data	Allows exporting raw scan data.
Automatic patients search when opening form	When checked, OrthoAnalyzer automatically displays the list of patients when entering the <i>Open patient form</i> (so you don't have to press Search).
Default unprepared model set double click action	Allows you to select the default action at double-clicking the unprepared model (open or prepare model set).
Large previews	If selected, displays large previews in the applications.
Previews and screenshots format	Allows you to set the format of the previews and screenshots.
Enable high resolution models preview generator	If checked, enables high resolution models preview generator.
High resolution preview size	Becomes active if the high resolution preview generator option is enabled. You can set the parameters for the size of preview.
Save signed copies of scanned models	If checked saves the signed copies of scanned models.
Allow updating patient info from command line	If checked, it is possible to update the patient info from command line.

(1) Select the appropriate Tooth index system out of the four possible options: Universal Numeric Notation, FDI Notation, Haderup Notation and Palmer Notation.

Universal Numeric Notation:



FDI Notation:

	Permanent teeth														
upper right						upper left									
18	17	16	15	14	13	12	11	21	22	23	24	25	26	27	28
48	47	46	45	44	43	42	41	31	32	33	34	35	36	37	38
lower right								lowe	er left						

Haderup Notation (mostly used in Scandinavian and Eastern Europe countries):

8+	7+	6+	5+	4+	3+	2+	1+	+1	+2	+3	+4	+5	+6	+7	+8
8	7-	6-	5-	4-	4-	2-	1	-1	-2	-3	-4	-5	-6	-7	-8

Palmer Notation:

In the Ortho System, the mouth's quadrants are identified using the following convention:

- **UR** for Upper Right
- **UL** for Upper Left
- LR for Lower Right
- LL for Lower Left

Thus, the Upper Right Central Incisor is called **UR1** according to the Palmer notation.

Check the **Use 2D tooth length** checkbox to employ the traditional two-dimensional measuring system, which would enable measuring dental distances using the user point-of-view as a measuring plane.



The method for placing the 2D (38.00) length looks identical to that of the 3D length (51.33)

Illustration of the differences between the 2D (38.00) and the 3D (51.33) lengths

(2) Select the appropriate **Shader material** which would define the mode for the virtual texture visualization of the models:



Gypsum

ModelBackface

ModelBackface2

Not specified*

*If you prefer to leave the shader material as **Not specified**, then the system will automatically display the **Choose** button that you can click to get the color map and select the shader (color) of your own choice for the models.

2.1.8 Dongle Licence Server

Click the **Browse** button and specify the dongle license sever, selecting it in your network places.

To set your current PC as the dongle license server for the 3Shape Ortho applications, click *This PC*.

Specify the number of the **Dongle license server port** and click **Test connection**.

Dongle license server		*
Dongle license server	127.0.0.1	This PC Browse
Dongle license server port	27027	
		Test connection

2.2 Administrative Settings

2.2 Administrative Settings



- Dongle Service Communication
- Administrative settings Administrative settings section allows you to set administrative services like:
 - Dongle Service •
 - Communication •
 - Sites

2.2.1 Dongle Service

a Sites

Administrative settings > Dongle Service

Sites



Administrative settings Dongle Service

🔈 Communicatib

As soon as you click the **Administrative settings** icon, the main window opens up displaying the **Dongle update** option (see image below). Click on it to start updating your dongle.

After you have clicked the **Dongle Service** tab, the main window opens up allowing you to update the dongle in two ways (see the image below):

- Via internet (by clicking the **Internet update** button).
- Manually (by clicking the Manual update button). In this case the Manual update ٠ window will pop up asking you for the update code provided by 3Shape.

Tasks			
igo Dongle Update	Dongle Upda	te	
Connection setup	There are two ways to updat manually (by clicking the 'Man	e dongles on your system: directly through internet (by clicking the 'Internet update' button), or ual update' button). In the latter case, you will be asked for an update code provided by 3Shape.	
	Dongle number	1494670332	
	Number of updates	8	
	Applications enabled	ScanIt Orthodontics (2 client points) OBSOLETE ScanIt Orthodontics Impression OrthoAnalyzer (2 client points) ScanIt Scan Verification Module	•
		Refresh Internet update Manual updat	te

Click the **Refresh** button to update the following information:

Dongle number – The unique number of your dongle.

Number of updates - The number of updates performed so far.

Applications enabled – The applications available on your dongle.

In order to update dongles via internet, click on the **Connection setup** button in the **Tasks** menu. The image below illustrates the window that appears on the screen.

The **Server URL** field must contain the address pointing at the 3Shape dongle server. If you are behind the proxy server, enter the appropriate settings in the **Proxy settings** section.

Click **Test connection** button to verify whether the connection was successful.

Connection setup

In order to be able to update dongles via internet, the address below must point at the 3Shape dongle server. If you are behind a proxy server, you must enter the appropriate settings in the 'Proxy settings' section below. You may verify that the communication is properly established by clicking the 'Test connection' button.

Server URL	http://www.3shape.com/LicenseManagement/LicenseWebServer.exe/soap/ Test connection					
Proxy settings		*				
Use proxy						
Server name						
User name						
Password						

2.2.2 Commun	ication	
Administra Dongle S Commun Sites	a <mark>tive settings</mark> Service The <u>Nication</u> for	Communication section allows you to make settings the Trios connection.

Communication

TRIOS Direct Connection		*	
Fnabled	C:\ProgramData\3Shape\OrthoData 2012-1 Beta\TRIOS Direct	Browse	

Mark **Enable** checkbox to activate the **Trios Direct Connection Folder** section. If you need to change the path simply click *Browse* and choose the folder.



Administrative se Dongle Service Communication Sites	ttings The Sites see between Orth Using this see from the curr	The Sites section allows you to customize interactions between Ortho System and labs, manufacturers or clinics. Using this section will ease transferring orders process from the current site to the central manufacturing site.			
Tasks Import site(s) from server	Edit Site				
Import sites from Excel document	ID	12031			
	Name	Sales dongles			
Site					
Sales dongles	Address 1	58 Kensington street			

Sales dongles	Address 1	58 Kensington street
Empty (This site) 3Shape	Address 2	58 Kensington street
	Zip code	NW1
	City	London
	State	
	Country	United Kingdom 👻
Hide inactive items	Phone	+ 44 86697070750
🛟 Add	Fax	+ 44 57690707895
👆 Сору	Email	salesdongles@3shape.com
X Delete		
Move up	Web address	www.3shape.com
Move down	Contact Person	Jane Doe

Edit site section

2.3 Workflows Settings



Workflows Settings Workflows

As soon as you click the **Workflow settings** icon, the main window opens up offering you to edit the workflow steps (see the image below).

The application allows you to setup a number of customized workflow wizards with predefined operational steps in OrthoAnalyzer. This cleans up the software interface and organizes steps and operations for your own use.

1	Preparation VirtualSetup Analyzer	*	Edit Workflow					
			ID	Preparation Change ID				
			Name	Preparatio	n			
			All steps		Current workflow steps			
Hie	de inactive items		Move teeth Occlusion map Measurements		Occlusion Alignment for open model set Setup local origo on maxillary model			
	Copy Copy Celete Move up Move down		2D cross section Cross-section along dental arc Analysis objects	>>	Setup occlusion plane Preparation maxillary model Preparation mandibular model			
		H	Analysis reports Dental arc analysis Generate Report	<<				
4	Export		Overbite/Overjet					
	a import							
R	ecycle bin							
5	S Restore all items							
	Empty the Recycle Bin							
D	etails							
To	otal: 3 items							

Workflows Settings ► Workflows

In the **Workflow settings** you can use and edit the pre-made wizards or add your new wizards.

• Adding a new wizard

Change ID			
Change I	D		
Please select a valid unique ID.			
ID			
	OK Cancel		

When creating a new wizard, click the **Add** button to add the wizard ID in the appeared *Selection of ID* window.

Once the new wizard is added it appears in the **Workflow** list on the left. Inactive wizards can be hidden from the list by selecting the required wizard and ticking the **Hide inactive items** checkbox. All available steps of a wizard are show under **All steps** listing while the wizard remains selected.

Select the required steps for the created wizard and transfer them to the **Current workflow steps** list on the right with the >> button. Use the << button to remove the selected steps from the **Current workflow steps** list if needed.



The customized workflow wizard name can be edited by selecting it from the **Workflow** list and clicking the **Change ID** button.

You can specify color of the selected wizard by clicking the **Workflow color** cube and selecting the desired color from the available palette.

• Other operations

With the other operations you can **Copy**, **Delete**, **Move up** and **Move** down the selected wizards. The deleted wizards are kept in the **Recycle bin**. You can either restore them or empty the **Recycle bin**.

The **Export** and **Import** buttons allow you to easily export or import your wizard settings to/from a *.3ml file.



The supplied Ortho software installs 3 premade customized workflow wizards by default as examples. As shown in the table to the left, the wizards are represented by the hat icons of varying color and are located in the Main toolbar of OrthoAnalyzer.

Only the sequence of steps defined for the wizard in the Ortho Control Panel appears in the OrthoAnalyzer interface on the wizard icon selection. The following image shows the operational steps of the default **Preparation** wizard in the Ortho Control Panel and OrthoAnalyzer interfaces:



3 Construction Elements

3 Construction Elements

Construction elements

> Template base models

- 🥒 Bars
- Attachments
- Teeth Movement Constraints
- 🖌 IDTag Settings

The **Construction elements** section contains the templates and settings for the

- <u>Template base models</u>
- Bars
- <u>Attachments</u>
- <u>Teeth Movement Constraints</u>
- ID Tag Settings

Click at the appropriate icons will take to these sections.

3.1 Template Base Models

Template base model – Enlists entries for the template base models.

Manipulation field (Add/Copy/Delete/Move up/Move down) - enlists the actions you may apply to the template base models.

Recycle bin - Navigates the deletion and restoration process regarding the template base models entries.

Details - Show the quantity of all the template base models (total) and the only active ones (active).



1. Template base models library – Enlists entries for the template base models.

2. Manipulation field (Add/Copy/Delete/Move up/Move down) - enlists the actions you may apply to the template base models.

3. Recycle bin - Navigates the deletion and restoration process regarding the template base models entries.

4. Details section - Shows the quantity of all the template base models (total) and the only active ones (active).

To add a new template base model, click ***Add**. The Selection of ID box appears, asking you to insert a valid unique ID for the new template base model, which can involve any alphanumeric combination, except for the ones already present in the list.

5. As soon as ID is specified, the main window transfers to the *Edit Template Base Model* (see image above).
Change ID	 Change ID	
Change ID	Change ID	
Please select a valid unique ID.	Please select a v	alid unique ID.
ID I	ID	Full, upper - base 1
OK Cancel		OK Cancel

The system automatically identifies the model ID with its name. Click the *Change ID* button to change the ID specified before.

The upper-base 1model is marked as **Active**, together with 11 other items on the list, which is reflected in the **Details** tab.



<Not specified>

Template Base Model

6. The path for the current base model entry is not specified at first. To specify it, move the cursor to the **Template Base Model <Not specified field>** (the white box will circle it to make it active) and click the field. The *Open* window will appear asking for the file name for the base.

The default path for the base templates is specified opposite to the schematic image of the model selected (see image above). The templates are located in the *Base models* folder in the 3Shape OrthoAnalyzer library.

As soon as one of the templates is specified (in our case, the upper model), go on to add the second template for the virtual cast, if necessary. Start with the **Add** operation, as before.



Note that the template base models are shown in different colors for you to associate between the upper and the lower basses easily.

Select the **Hide inactive items** checkbox to see only the active templates in the template base list.

To copy a template base model, select the model to be copied and click + Copy.

To delete a template base model, select it and click *Delete*.

To move a template base model up in the list, select it and click **Move up**.

To move a template base model down in the list, select it and click **Move down**.

Follow the scheme below to navigate the various options in the **Recycle bin**:



Select items

Please select one or more items which you either wish to delete or restore. Note that if restored, an item will be marked as inactive.

	test
Recycle bin 1 item Restore all items Empty the Recycle Bin	
	Restore selected item(s) Delete selected item(s)

3.2 Bars

Bars are 3D construction components based on a predefined 2D profiles which can
 Bars be used to create appliances in Appliance Designer. Follow the instructions to arrange settings for bars.

Bars	Eur Dars		
Test Bar	ID	Test Bar	Change ID
	Name	Test Bar	
	Bar shape type	Custom	•
	Shape spline	X-coordinate	Y-coordinate
		-1.00	-5.00
		-1.00	0.00
		1.00	0.00
		1.00	-5.00
Add			
Poloto	Shape spline image	<u>-</u>	
	Shape Spille intege	.30 .25 .20 .15 .10 .05	0.0 0.5 1.0 1.5 2.0 2.5 3.0
Move down		0.5	
Hove down		0.0	
Pervele hin		0.5	
Recycle bill		-0.5	
No items		-1.0	
Restore all items		-1.5	
Empty the Recycle Bin		-2.0	
Details		-2.5	
Table tites		-3.0	
Active: 1 item		-3.5	
		-4.0	
		-4.5	
		-5.0	
		-5.5	
	Snap to grid		
	Symmetric shape		
	Shape spline image grid spacing	0.50 🐑 mm	

Construction elements > Bars

Edit Bare

Bar settings

1. Create a bar

Click the *Add* button and enter the ID of the item. The **Edit Bars** section is activated. It is possible to change the **ID** of the created item and the **Name** (for more information see the section <u>Template Base models</u>).

2. Customize the item settings

Select the **Bar shape type** from the drop-down menu:

7
45
I

Each type has specific further settings. For instance, **Custom** type allows to edit the parameters of the **Shape spline** coordinates manually.

Y-coordinate Click at the coordinates and type the desired numbers. In either case you can scroll the wheel on your mouse to change the parameters.

Customize the scale of the spline in the **Scale** editbox. It is possible to observe the results of editing on the grid in the **Shape spline image** section.



It is possible to create a spline of any shape you like. Add extra points by double-clicking at the grid. You can move the red point to any position you like by holding the left button of the mouse. Right-click the point to open the popup menu and remove a point. Select **Interactive control point** to be able to operate with the selected point in the Appliance Designer.

Snap to grid - allows to fixate the points on the grid.

Mark the **Symmetric shape** checkbox to keep the spline automatically symmetric.

Customize the look of the spline grid by setting the parameters in the **Shape spline image** grid spacing editbox.

Ending type	Flat
Optional degrees of freedo	Wrap Around
Rotation	
Vertical scale	
Horizontal scale	
Info message	
Show info message	
Select language to edit	English
Message	

Select the **Ending type** from the drop-down menu:

- Flat creates flat ends on the bar
- **Wrap Around** creates rounded ends with the shape wrapped around the vertical axis.

Optional degrees of freedom section - enables the indicated bar transformations in ApplianceDesigner during editing.

Save your settings by clicking the **Save** 📶 button in the Main menu.

3.3 Attachments

Attachments section allows you to set the parameters for the attachments in OrthoAnalyzer. Click the corresponding icon on the Home page to open the Attachments page.

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Attachment	Edit Attachment			
locator				
drill hole 1.6	ID	locator	(Change ID
	Name	locator		
	Attachment visual model path	٢	Attachment visual mod C:\ProgramData\3Shape BETA\Suits\LoadedModel removable_OCPExport\Ba	del path ApplianceDesigner 2011-1 s\Herbst ill Attachment.stl
	Attachment additive model path		Attachment additive m	odel nath
Hide inactive items			C:\ProgramData\3Shape\	ApplianceDesigner 2011-1
🛖 Add		9	BETA\Suits\LoadedModel	s\Herbst
👍 Сору			removable_OCPExport\Ba	all Attachment.sti
🗙 Delete	Attachment subtractive model p	ath		
🗾 Move up			Attachment subtractiv	e model path
1 Move down				
Recycle bin	Default orientation	Insertion dir	rection 🔹	
In the second se				
😽 Restore all items	Optional degrees of fre	eedom		
🕖 Empty the Recycle Bin	Tílt	Max tilt	90.00 🕃	
Details	Translate from surface	Max distance	95.00	
Total: 2 items	Rotation around axis	\checkmark		
Acuve: 2 items	Scale in x direction	\checkmark		
	Scale in y direction	\checkmark		
	Scale in z direction	\checkmark		

Attachment settings

1. Create an attachment

Click the **Add** button to create an attachment. Enter the ID of the item and click **OK** in the popup window. Now you can set the parameters for the new item. Choose the type of attachment from the following options:

Visual model - an attachment setup as visual model will be displayed on the screen but will have no impact on the underlying geometry, unless one of the two following options is chosen:

• **Additive models**: when this option is chosen, the attachment geometry will be added to the underlying model's geometry (Boolean operation)

OR

• **Subtractive models**: when this option is chosen, the attachment geometry will be subtracted from the underlying model's geometry (Boolean operation)

2 . Customize the attachment settings

It is possible to **change the ID** and **Name** of the item (for more information see the section <u>Template base models</u>).

Indicate the path of the model in the **Attachment visual model path**, **Attachment additive model path** and **Attachment subtractive model path** that will be displayed together with the preview of the attachment. Once you click at the desired section the Open window appears, where you select the CAD file (.stl, .dcm, .wrl).

Select the **Default orientation** of the attachment from the drop-down menu:

Insertion direction	N
Insertion direction	15
Surface normal	

Mark the **Tilt** checkbox to set the parameters for the inclination of the attachment axis in the **Max tilt** editbox.

Translate from surface option, if checked, allows to set the **Max distance** of the attachment movements in the corresponding editbox.

Mark **Rotation around axis** checkbox to perform rotation of the attachment around its axis.

The **Scale in x (y, z) direction** checkbox, if checked, allows stretching of the attachment along the corresponding axis.



Note: All attachments need to be part of a Group to be available in OrthoAnalyzer or Appliance Designer.

To make attachments available in the OrthoAnalyzer or Appliance Designer applications, it is

necessary to include them in **Attachment Groups**. Click the *Add* button to create a new group:

Attachment groups



Type the name of the new group and click **OK**. The new group window can be filled with the attachments. To add the attachment to the group select it with a single click from the

Attachment tab and click the 📌 Add current attachment button.

3.4 Teeth Movement Constraints

The **Teeth Movement Constraints** option allows you to set the parameters for the teeth movements you perform in Teeth Movement Constraints OrthoAnalyzer. Constraints can be associated with biomechanical values for given tooth groups, or for example to specific appliances or treatment methods.

The settings for the Teeth Movement Constraints tab are the same as in the Bars and Attachments section.



It is possible to set the parameters for the group of teeth. Follow the instructions in the right column and use the appropriate buttons to *Create a new group*, *Select a group*, Change a group. Mark Use symmetry checkbox to select opposing group of teeth. The teeth will be highlighted by different colors. After selecting the group you can set the parameters of the movement constraints for the whole group.

Tooth	Inclination(grad)	Angulation(grad)	Rotation(grad)	
1	30	180	180	
2	180	180	180	Double click the numbers in the
3	180	180	180	table to edit the parameters for
4	180	180	180	each type of movement of every
5	180	180	180	
6	180	180	180	

3.5 ID Tag Settings

The **ID Tag Settings** section allows you to set the ✓ IDTag Settings parameters for the ID tags that can be placed on 3D models in Appliance Designer.

An ID tag can either be:

	positive	negative
integrated in the model's surface	test	test



IDTag Settings	Edit IDTag Settings		
test	ID	test	Change ID
	Name	test	
	Active		
	Text		
	Integrated		
Hide inactive items	Font Depth	1.00 🕃	
👍 Add	Font Height	3.50 🕃	
🛶 Copy 🗙 Delete	Detachable		
Nove up	Connectors Count	1 🗑	
- Move down	Min. distance to Model	3 💭	
Recycle bin			
No items Restore all items			
🕖 Empty the Recycle Bin			
Details			
Total: 1 item Active: 1 item			^

1. Create a new ID tag

Use the **Add** button to create the new ID tag. You can change its **ID** and **Name** in the **Edit ID Tag Settings** section.

Indicate the **Text** that will appear on the ID tag.

2. Set the parameters for each type of ID tag

Indicate the **Font Depth** and **Font Height** of the Integrated or Detachable types of ID tags in the corresponding edit boxes.

4 Custom Report Configuration

4 Custom Report Configuration

Custom report configuration

The **Custom report configuration** section contains two subsections:



- 🖉 Report types
- Report templates
- <u>Report types</u>: defines the content of the report, chosen from a list of features and analysis items
- <u>Report templates</u>: defines which framework is used to display the elements chosen under the type.

Click at any subsection to open it.

4.1 Report Types

Select the **Report types** tab to create/edit the type for your customized report:

Custom report configuration + Report types

Primitives-Report type	Name Overview
Overview	Supported templates Templates list
Overview with measur Overview with analysis Analysis Report Screenshots Report	OverviewWithMeasurments OverviewWithAnalysisObjects AnalysisReport ScreenshotsReport
	Report options
ide inactive items	Select the items that are to be in the report
🔓 Add	
🖕 Сору	Analysis
Delete	Ideal arch analysis
Move up	Tooth width analysis
Move down	Default
	Bolton analysis
locuclo hin	
no items	Standard analysis objects
😽 Restore all items	Korkhaus Schwarz Analysis
Empty the Recycle Bin	OverbiteOverjet
	Screen snapshots
Details	
otal: 5 items	
Active: 5 items	
	Show long axis

Report settings

1. Select the type of the report

Choose the type of the report from the **Primitives-Report type** tab to the left. It is possible to **Change the ID** and the **Name** of the report type (for more information see the chapter <u>Template Base Models</u>).

In either case you can create your own type by clicking the ***** Add button.

2. Customize your report

Select the **Default template** from the drop down menu (the templates are created in the **Report templates** tab descried in the <u>Report templates</u> section). Choose the items that are to be in the report from the tree by marking the checkboxes with the mouse. Scroll down to view the entire tree.

Note: choose the **Model Image** option from the list for each view in order to show the study models.

4.2 Report Templates

You can create a report template in the **Report templates** section. Click the appropriate icon in the **Custom report configuration** section to open the following window:

OverviewWithMeasurm	Luit I minuves hepo		
OverviewWithAnalysis0	ID	OverviewWithMeasurments Chang	e ID
AnalysisReport ScreenshotsReport	Name	OverviewWithMeasurments	
	Report template		*
	Path to report template (*.rpt fil C:\Program Files\3Shape\0	e) rthoAnalyzer 2011-1 BETA\Reports\OverviewWithMe	asurments.rpt
lide inactive items	Browse f	or Files or Folders	Browse
🔓 Add			
🖕 Сору	Choose	report template file	
🗙 Delete		A Reports	
😽 Move up		AnalysisReport.rpt	
🔟 Move down		AnalysisReport_Karlshoi	
Recycle bin		AnalysisReport_Mitte.rp Ortho34_OverviewWith	
No items		OverviewWithAnalysisO	
😽 Restore all items			
Empty the Recycle Bin		OverviewWithMeasurme +	
Details		4	

Custom report configuration > Report templates

Report templates settings

Click the **Browse** button to select the path to the report template from the Browse for *Files or Folders* window that appears on the screen.

Other sections and options of the window are described in details in chapter <u>Construction</u> <u>Elements</u>.

5 Analysis set up

The **Analysis set up** tab deals with the setup of the following standard analysis tables which are used as references in some analysis workflows:



Standard analysis

- 15 Standard tooth width tables
- 1 Standard Moyers tables
- 1 Standard Bolton tables
- Standard tooth width tables
- Standard Moyers tables
- Standard Bolton tables

Click on any of the icons to begin editing. The image below illustrates the editing of the **Standard Bolton tables**. The **Standard tooth** width tables and the **Standard Moyers tables** are edited in the same way.

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Edit Bolton Ideal Ratios Table

Chinese					
	ID			Change ID	
	Name	Chinese			
	Active				
	Anterior table	Maxilla	Mandible	A	
		40	31.8		
		40.5	32.2		
Hide inactive items		41	32.6		
👍 Add		41.5	33		
ф Сору		42	33.3		
X Delete		42.5	33.7		
Move down		43	34.1		
		43.5	34.5		
Recycle bin		44	34.9		
I No items		44.5	35.3		
😽 Restore all items		45	35.7		
👩 Empty the Recycle Bin		45.5	36.1		
		46	36.5		
Details		46.5	36.9		
Total: 1 item Active: 1 item		47	37.3		
		47.5	37.7		
		48	38.1	-	
	Overall table	Maxilla	Mandible	*	
		85	78		

Edit Bolton table window

Mandible	
31.8	

To edit the data in the table, left-click on the cell and insert the necessary numbers. You can also scroll the mouse wheel to move from cell to cell.

Other sections and options of the window are described in details in the chapter <u>Template</u> <u>Base Models</u>.

6 Custom Analysis

6 Custom Report Configuration



Custom analysis

- 😑 Landmarks 3D
- 🐞 Lines 3D
- 🔵 Angles 3D
- Planes
- 😑 Distances 3D
- 💿 Custom splines 3D
- 🏭 Lookup Tables
- Collections
- 👔 Questionnaires
- 🧼 Analysis objects general settings

The **Custom Report configuration** tab presents the tools required to fully customize analyses, questionnaires, and reports.

6.1 Custom Objects and Primitives

Custom objects and Primitives

For your customized analyses and report you can setup Landmarks, Lines, Angles, Planes, Distances and Custom splines. Click on any of the colored icons to open an editing window. The image below illustrates the editing of lines.

😑 Landmarks 3D

- 🔵 Lines 3D
- Angles 3D
- 🔵 Planes
- 🛑 Distances 3D
- Custom splines 3D

You can add a line by clicking the **Add** button and give a name to you new line. Name your line as desired and select two landmarks (or points) for it (**Landmark 0** and **Landmark 1**).

Select the **Use 2D projection** checkbox to use a projection plane on which to take measures, rather than directly on the 3d model. You can select the type of plane in the **Projection plane** dropdown menu.

Other sections and options of the window are described in details in chapter <u>Construction Elements</u>.

The editing of Landmarks, Angles, Planes, Distances and Custom splines follows the same principal.

When editing Distances, keep in mind that there is a point-to

line distance and a **point-to-plane** distance that you can choose from the drop-down menu.

Primitives

The following illustration shows the primitives, i.e. the conceptual relationships between the defined objects:



The dependencies between the primitives are summarized in the following picture:





Example: Korkhaus-Schwartz Analysis: a custom analysis has been created in your installed system and we will use it as a working example of the concepts applied to the custom objects and analyses (image to the left).

Landmarks, Angles, Distances and Custom splines sections have almost the same settings as

• planes:

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Custom analysis	Planes				
💠 Add 🔶 Copy	🕻 To Recycle bin		Recyc	cle Bin: 🧼 Show Recyc	sle (1 item) 🐬 Restore All 🥑 Empty
(1		Gen	eral		(3)
Name C	ID	Landrmark 1	Landrmark 2	Landrmark 3	J
Occlusion plane	OcclusionPlane1	OcclusionPoint1	OcclusionPoint2	OcclusionPoint3	
Cross plane	CrossPlane	CrossPoint1	CrossPoint2	Cross point 3	
		2		Cross point 3 Korkhaus_UR4 Korkhaus_UL4 Korkhaus_UR6 Korkhaus_UL6 Korkhaus_U1_1 PAR_UR4 PAR_UL4	

Landrmark 3

1. Operation buttons 2. List of planes 3. Recycle Bin

1. Customize the available planes

Click **Add** to create the new plane and enter the ID for it:



Otherwise, click *Copy* to duplicate the existing plane. It is possible to give a new name to the copy.

Select *To Recycle bin* to delete the plane from the list.

2. Edit the List of planes

Double click the **Name** or **ID** of the plane to edit the appropriate field. Double click the **Landmark 1(2,3)** section to select the landmark type from the drop-down menu (see the image above).

3. Work in the Recycle bin

After clicking the
Show Recycle (1 item) button you open the list of the items in the Recycle bin.

It is possible to select to **S** Restore the particular item or to **S** Restore **A**. Otherwise **Delete** it or **Empty** the Recycle bin.

Click $\stackrel{\textcircled{}}{\Rightarrow}$ Back to List to exit the Recycle bin.

All the options are available in the pop-up menu after right-clicking the list.

6.2 Lookup Tables

1 Lookup Tables

To create a reference lookup table for your analysis workflow, go to the **Lookup Tables** tab to open an editing window (see the image below).



	Edit Lookup Table	S					
Schwartz-Korkhaus	ID	Schwartz	z-Korkhaus		Cha	nge ID	
	Name	Schwart	7-Korkhaus			inge ib	
		Schware	2 Konkingus				
	Column count	5					
	Row count	19				Apoly	
	Lookup Table	A	B,B1	С	C1	D	
ido ipactivo itomo		27	34	43.5	42.5	18	
Add	_	27.5	34.5	44.3	43.3	18.3	
Copy		28	35	45	44	18.5	
Delete		28.5	35.5	45.8	44.8	18.8	
Move up		29	36	46.5	45.5	19	
Move down		29.5	36.7	47.3	46.3	19.3	
		30	37.5	48	47	19.5	
ecycle bin		30.5	38	48.8	47.8	19.8	
1 item		31	38.5	49.5	48.5	20	
Restore all items		31.5	39	50.5	49.5	20.3	
Empty the Recycle Bin		32	39.5	51	50	20.5	
etails		32.5	40.2	52	51	20.8	
otal: 1 item		33	41	53	52	21	
ctive: 1 item		33.5	41.5	53.5	52.5	21.3	
		34	42	54.5	53.5	21.5	
		34.5	42.5	55	54	21.8	
		35	43.2	56	55	22	

A Lookup Table with 5 columns and 19 rows was defined with values from the following website: <u>http://www.johnsdental.com/articles/ortho/Scwzkork1.htm</u>

To create a new table, click the *Add* button and name your table as desired (e.g. Schwarz-Korkhaus). Enter the necessary amount of columns and rows in the corresponding fields, choose the amount of columns and click *Apply*. After the table has been created, you can modify it by left-clicking on the columns and entering the respective values.

Other sections and options of the window are described in details in chapter <u>Construction</u> <u>Elements</u>.

6.3 Collections

Collections

In the **Collections** tab you can create a group of different primitives – landmarks, lines, angles, planes, distances, splines and object values, which will typically correspond to the full analysis protocol you want to create.



The following image illustrates collections and how **Primitives** can be applied to separate **Collections**:

Click the corresponding button in the **Custom analysis** section on **Home page** to open the **Collections** tab:



To customize the collections follow the steps described below.

Step 1: Create a collection

To create a collection, click the **Add** button and name your collection as desired. Select different elements from the drop down menus and click Add to add them to your collection. Click **Remove** to delete an element from the collection. You can **Export** and **Import** the collection with the help of the corresponding buttons (see the image above). It is possible to edit the ID and Name of the selected collection (for more information see the section <u>Template base models</u>).

Step 2: Customize the collection

You can observe the elements forming the selected collection in the **Collection objects** tab. It is possible to fold/unfold the groups by clicking the triangle in front of the name of the group.

Use the operation buttons to the right to customize the collection or right click the selected object in the collection elements tree.

				Click the
Create new item				to add a new element
New item type Landmark Line Angle Plane Distance Custom spline 	-Landmark properti	es		to the collection. This will open the <i>Create</i> <i>new item</i> window. Select the New item type and fill the settings for each type in the right part of the window. Each item has its specific properties. The general settings will be the ID and
		ОК	Cancel	as in the Landmark settings). Click OK to save the
				settings.

• Line

Create new item	Tarra .	-	-	.
New item type Landmark Line Angle Plane Distance Custom spline	Line properties ID Name Landmark1 Landmark2 Projection plane	 ✓ Net Not specified ✓ Net Not specified Occlusion plane Saggital plane Horizontal plane Anterior/posterior Occlusion plane Car Cross plane 	ew ew ew	It is possible to set the Landmark1 and 2 from the drop-down menu for the new line from the existing ones. Click the New button to create the new landmark. The <i>Create new item</i> window for landmark appears (see the previous image). You can set the Projection plane for the line you create.

• Angle and Plane

Have the same settings as the **Line** but for the **Projection plane**.

• Distance

Create new item			
New item type	Distance propertie	95	
🔘 Landmark	ID		
🔘 Line	Name		
Angle	Landmark	▼ New	Set the properties for
Plane	Line	▼ New	the Landmark and Line as in the
Oistance			appropriate sections.
Custom spline			
		OK Cancel	

• **Custom splines** Have the same list of settings the Line but for the Landmarks.

 Angle1 Angle2 Angle3 Planes Occlusion plane Cross plane Distances Custom splines OK Cancel Cancel Clicking the Add existing button. The Info window appears with the list of the elements available. Select the element from the collection tree by single click or holding the Ctrl button for multiple choice. Click OK to add the items to the list. OK Cancel	Info	It is possible to add new element to the collection by clicking the Add existing button. The <i>Info</i> window appears with the list of the elements available. Select the element from the collection tree by single click or holding the Ctrl button for multiple choice. Click OK to add the items to the list.
---	------	--

The Korkhaus Schwartz analysis Collection thus includes the following **Primitives**:



A set of **7 landmarks** set by the user on the specific teeth (e.g. Korkhaus_UR4, Korkhaus_U1_1...)

4 lines: Korkhaus B, defined Korkhaus_U4_4, joining the landmarks Korkhaus_UR4 and Korkhaus_UL4 etc.; and **1 Distance**: Korkhaus_D, which joins the Korkhaus_B line and the landmark Korkhaus_U1_1.

Please note that a primitive can be applied in several Collections or analyses.



At the bottom of the window there is an **Object Values** button where you can create some fixed values or associate some calculations to the **Primitives** you have defined in your **Collection**. The image below illustrates the *Edit Object Values* window that contains the items of the expression and the white field of the expression itself.

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ustom analysis + Collections + Object Value List

Primitives-ObjectValue	Edit Primitives-ObjectValu	le	
Korkhaus_A			
Korkhaus_B	ID	Korkhaus_A	Change ID
Korkhaus_C	Name	Kaddaur A	1
Korkhaus_B_ideal	Name	Korknaus_A	
Korkhaus_C_ideal	Active		
Korkhaus_D_ideal			
Korkhaus_B-B_ideal_di		Measure N Angle	Distance Custom spline
Korkhaus_C-C_ideal_di			
Korkhaus_D-D_ideal_di		Object Value Tooth Width	Overbite Overjet
		Lookup Lookup table	Lookup column Math Function
Hide inactive items			
da Add	Expression	ToothWidthPN('UR1')+ToothWidthPI	N('III 1')+ToothWidthPN('IIR2')+ToothWidthPN('III 2')
🖕 Сору		procentiatin in ord y robarting and	
🗙 Delete			
🗾 Move up			
📹 Move down			
Barrista I.t.		check expression	
Recycle bin	Always return result		
items			
🛒 Restore all items	Default value	0	
👩 Empty the Recycle Bin			
Details			
T-1-1 O'low			
Active: 9 items			

To create a new expression, click the *Add* button and name your collection as desired. Click on the necessary buttons in the table to select the desired items for your expression in the drop-down menu (see image above).

To check if the expression was created correctly, click the **Check expression** button. A small information window will appear informing you whether the expression was created correctly or there was an error. Check the **Always return result** checkbox to return to the default value in case of the expression failure (the **Default value** can be entered below.

Other sections and options of the window are described in details in chapter <u>Construction</u> <u>Elements</u>.

Specifically, the object values defined for the **Korkhaus-Schwartz** analysis are listed below:

- Korkhaus_A: Expression: ToothWidthPN('UR1')+ToothWidthPN('UL1')+ToothWidthPN('UR2')+ToothWidthPN('U L2')
- Korkhaus_B: Line: Korkhaus_U4_4
- Korkhaus_C: Line: Korkhaus_U6_6
- Korkhaus_B_ideal: Lookup('Schwartz-Korkhaus','B,B1',Korkhaus_A)
- Korkhaus_C_ideal: Lookup('Schwartz-Korkhaus','C',Korkhaus_A)
- Korkhaus_D_ideal: Lookup('Schwartz-Korkhaus', 'D', Korkhaus_D)
- Korkhaus_B-B_ideal_discrepency: Expression: Korkhaus_B-Korkhaus_B_ideal
- Korkhaus_C-C_ideal_discrepency: Expression: Korkhaus_C-Korkhaus_C_ideal
- Korkhaus_D-D_ideal_discrepency: Expression: Korkhaus_D-Korkhaus_D_ideal

6.4 Questionnaires

Questionnaires The Questionnaires are used for a better presentation of the customized analysis and the implementation of the scoring systems.

The Questionnaire is a powerful feature that allows you to present your customized analyses in a user-friendly manner by arranging them in a logical sequence of **Steps**.

Each step can contain the following items:

- Imported pictures to illustrate e.g. a measurement
- The written instructions
- A question with multiple choices, each answer having its own individual score
- Analysis objects (including any custom analysis object available)
- A screen capture button
- Notes to be filled by the user

The default model and state of the patient model can also be preset for each step.

Steps can be organized freely into **Groups**.

Finally, it is possible to enter weights and scores for the individual steps and groups, thereby making it easy to compute indexes e.g. the PAR Index.

The *Edit Primitives-Questionnaire* window allows you to customize the already existing questionnaire or create a new one. In this section, we go through the settings of the PAR Index scoring system included as an example.

Image below illustrates the main sections and toolbars of the window:



- 1. The Questionnaire list
- 2. Editing Toolbar
- 3. Recycle bin
- 4. Details

- 5. Name and ID section
- 6. List of Questions and Question Groups
- 7. Operation Toolbar
- 8. Main menu

1. The Questionnaire list presents the list of the questionnaires available for viewing/editing. You can hide inactive items in the list by ticking the appropriate option under this window.

2. The Editing Toolbar allows you to add new questionnaires, copy and delete them, move questionnaires up/down in the list above and export or import questionnaires.

3. The Recycle bin shows the number of the items removed and allows to restore the items or empty the bin altogether.

4. The Details section presents the information about the total number of items loaded and the number of active items.

5. The Name and ID section presents the name of the questionnaire and its ID.



- You can change the ID by selecting the Change ID button.
- Type the new ID into the **ID** field and click **OK**.
- To change the questionnaire name, type the desired name into the corresponding filed.

6. The List of Questions and Question Group presents the list of Groups and Steps.

All questions

• Korkhaus Schwartz Maxilla • Korkhaus A • Korkhaus B (Line Korkhaus U4_4)

- Korkhaus C (Line Korkhaus U6_6)
- Korkhaus D (Korkhaus Distance U1_1)

You can fold/unfold each group by clicking at the arrow in front of the group name.

To edit a step or the whole group, perform one of the following actions:

All questions



- Right click on the step/group and select *Edit* from the appeared menu.
- Double click on the name of a step/group to open the *Edit Step/Edit Group* forms respectively.
- Select a desired step/group and choose the *Edit* button from the Operation toolbar to open the *Edit Step/Edit Group* forms respectively.

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Edit group			
Name Description	Korkhaus Schwartz M	laxilla	While editing groups in the Edit Group window, you can enter the Name of the Group as well as type in the information about the group in the Description field.
Weighting Steps:	1		The Weighting option indicates the importance of the Group in the scoring system.
Korkhaus A Korkhaus B (Line Korkh Korkhaus C (Line Korkh Korkhaus D (Korkhaus I	aus U4_4) aus U6_6) Distance U1_1)	Add Edit Delete	The Steps window presents the sequence and the list of all steps in the group.
		Copy Paste Move Up	You can edit a step and the list itself by selecting the appropriate buttons in the Operation toolbar to the right.
		Move Down	See the information below about the Operation toolbar.
		OK Cancel	Press OK to save the changes.

The Operation panel includes such options:

• Add

To create a step, select the Add button on the Operation toolbar.

The *Create step* window includes:

Name - insert the desired name for the step.

Weighting - insert a number for the scoring weight for the step.

Weighting Standard view	1 None	•	Standard view - down menu with visualization optio	- contains the drop the model ons:
Jaw state	None	•	Standard view	None
Models visibility	None	•	Jaw state	None Front view
Default collection	None	•	Models visibility	Rear view Left side view
Step items:			Default collection	Right side view Top view
		Add	Step items:	Bottom view Zoom all
		Delete Copy	Jaw state - cont menu with the jay options:	ains the drop down w visualization
		Paste	Jaw state	None
		Move Up	Models visibility	None
		Move Down	Default collection	Close
			Models visibility the upper/lower of from the drop doe	I - lets you choose or both models wn menu:
			Models visibility	None
		OK Car	CDefault collection	None Maxillary and Mandibul
and the second second			Step items:	Maxillary Mandibular

Default collection - allows you to select the appropriate collection. For further information see the OrthoAnalyzer[™] 2010 user manual (section Analysis Objects).

- Edit allows making some changes to the step you have created. •
- **Delete** removes the steps.

Create step

Name

- Copy creates a copy of the selected step.
 Paste inserts the copied item.

- Move up moves the selected item up the list.
 Move down moves the selected item down the list.

Edit step	is-Questionnaire		After selecting the Edit option for the step you will open the <i>Edit step</i> window.
Name Weighting	Upper R 3-2		Name – enter the desired name for the step.
Standard view Jaw state	None	•	Weighting - indicates the importance level of a question.
Models visibility Default collection	None	• •	The Standard view, Jaw state, Models visibility and Default collection sections
 bitmap measure Upper R 3-2 maxillary model Note 	top view	Add Edit Delete	are the same as sections in the <i>Create step</i> window. Steps items section includes the number of features that make up each step. There
		Paste Move Up Move Down	Question Hint bitmap Hint text Hint analysis object
			Screenshot Note
	(OK Cancel	The number of items may vary. You can add as many items as you like, still there should be not more than one
			Question.

• **Question** - is the text with the variants of answers that allows to specify a certain problem.

Name - is the section for naming the certain question.

Add question		Text - is the space where you can type the question
Name Text	question	will be displayed near the Text field as long as it empty.
Weighting	1	Weighting - shows the importance of the question that will be summed at the end.
Answer type Answers:	IntegerRadioGroup Integer Float IntegerDropDown FloatDropDown IntegerRadioGroup FloatRadioGroup	Answer type - allows you to select the type in which the variants of an answer will be presented either as a list, a drop-down menu or ratio buttons.
		Select the appropriate type from the drop down menu.
		Integer - stands for unified numerals.
Add 🗙 De	lete	Float - stands for non- integral numerals.
	OK Cancel	Answers section - shows the list of the answers.
		Use the Add button to create a new variant or the Delete button to remove it.
Answer text:	After adding the answer yo	ou can edit its content.

Answer text - is the information given as the answer.

Score 0

Score - indicates the numeral value of the answer.

• **Hint bitmap** - allows you to select and display a picture to illustrate the actions required at the current setup of the questionnaire.

If you select the **Edit** or **Add** button you will open the *Add hint bitmap* window:

Add hint bitmap	
Name bitmap	
Width 256 🕃	Name - enter the name of the hinting bitmap.
Height 256 🕞	d bitmap The width and height of the bitmap can be changed by clicking on the up/down arrows in the editing window.
No bitmap 😲	To load the bitmap, press the Load bitmap button and select the picture you want to upload. The supported formats are .jpg, .bmp, .png. If the bitmap is not loaded you will see the exclamation mark near the editing window.
	The picture will be displayed in the Bitmap preview to the left.
ОК	Cancel

• Hint text

Add hint text			
Name	text		You can type the name of
Text	test		appropriate section.
			It is possible to add a
	OK	Cancel	

• Hint analysis object
Name - enter the name of the analysis object.

Add hint analysis object		Caption - edit the description of the caption that will appear on
Name	analysis object	screen for the analysis object.
Caption		-Collection - select the collection
Collection	None	further information see section Analysis objects in the Ortho
Analysis object type	Measure	Analyzer manual).
Subtype	Direct	Analysis object type - select the object type for analysis from the drop down menu:
	OK Car	Measure
		Measure
		Angle
		Custom spline

Subtype - choose the object subtype from the drop down menu:

Direct	
Direct	5
Caliper	
Surface	
2D	

Note: For the predefined Collections, the dropdown menu shows the available analysis objects:

Collection	Korkhaus Schwarz Analysis	•
Analysis object type	Measure	•
Analysis object	Korkhaus_U4_4	•
	Korkhaus_U4_4 Korkhaus_U6_6	

• Screenshot

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r	Add screenshot			
l	Name		screenshot	Type in the name and the
	Description	θ	Ι	description of the screenshot to be taken by the user and click OK to save
			OK Cancel	changes.
L	L			

• Note

Add note		This field allows you to create a space in which the
Name	note	user can write notes in the current step of the analysis.
Caption	test	
	ОК	Cancel Type in the name and the description of the caption and click <i>OK</i> to save

You can also **edit** the already existing items of a step. The form is the same as in adding items.

7. The Operation toolbar allows to manage the Groups and Steps:

Add step adds steps to the selected group.

Delete step removes the selected group or step.

Add group allows you to add a new group.

Delete group removes a selected group.

Copy step creates a copy of a selected step.

Paste step allows to insert a copied step.

Edit opens the editing window.

Move up moves the selected group or step up the list.

Move down moves the selected group or step down the list.

8. The Main menu allows you to save the changes in the questionnaire file. Select the *Save* button in the main menu.

After setting the questionnaire in the Control Panel and saving the changes, you can now open it in Ortho Analyzer $^{\rm TM}$.

Note: Restart Ortho Analyzer[™] if it was opened at the moment of editing the Questionnaire in the Control Panel for the changes to take effect.

6.5 Analysis Objects General Settings

Analysis objects general settings

Allows you to select the color for the enlisted objects by clicking the appropriate square section and choosing the desired color from the popping up palette. Click the **Reset to default** button to undo the selection:

Custom analysis > Analysis objects general settings

Analysis Objects General Settings

Line default color		
Angle default color	Color	
Distance default color	Basic colors:	
Custom spline default color		
Line 2D default color		
Angle 2D default color		
Distance 2D default color		
Spline 2D default color		
Distance along center line default color		
Symmetry points 2D default color	Define Custom Colors >>	
Symmetry guide 2D default color		

Reset to default