Service Information

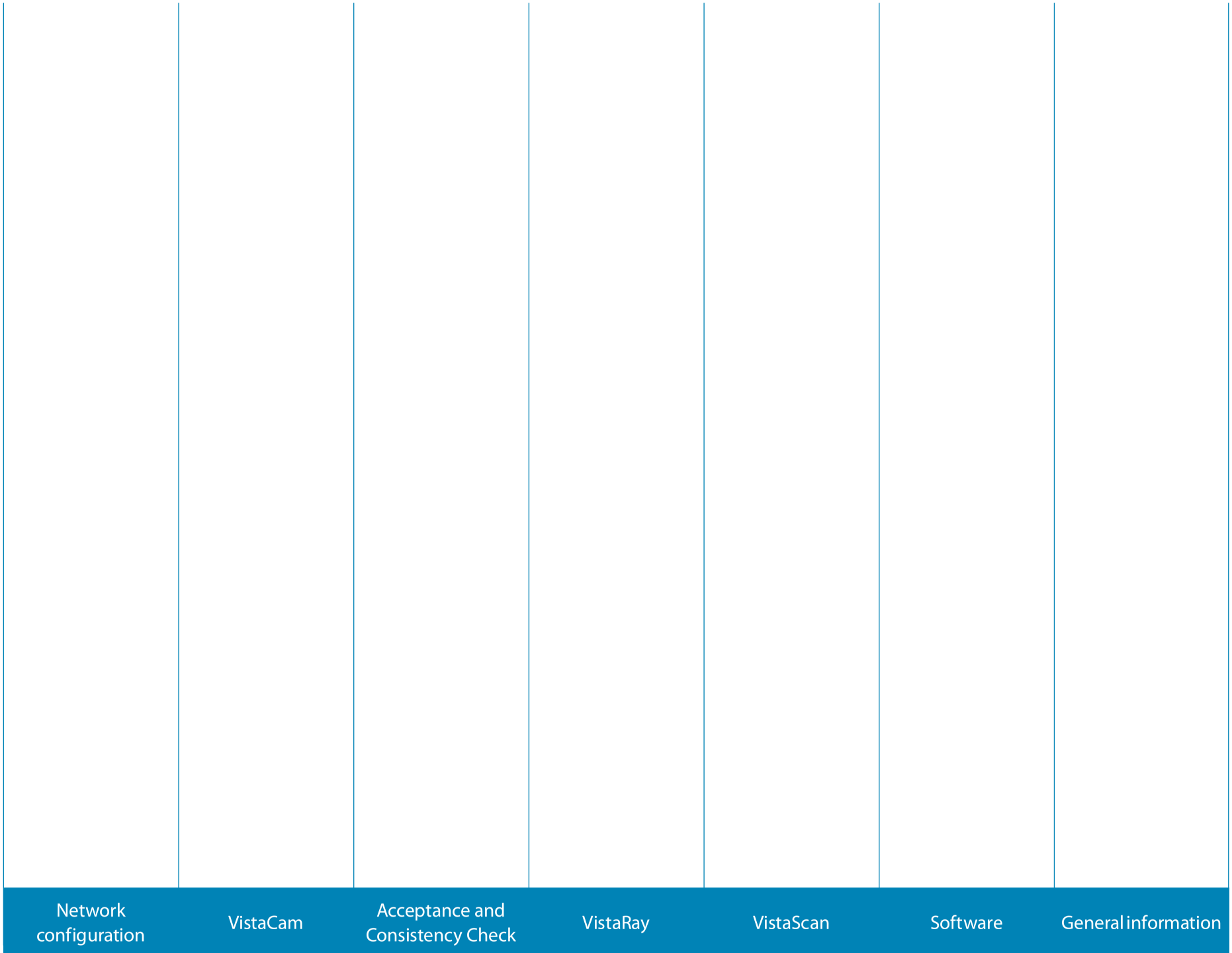


EN

COMPRESSED AIR
SUCTION
IMAGING
DENTAL CARE
HYGIENE

9000-617-04/02

DÜRR DENTAL


Network configuration
VistaCam
Acceptance and Consistency Check
VistaRay
VistaScan
Software
General information

General information



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General information

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General information
1. Minimum system requirements on imaging computer systems

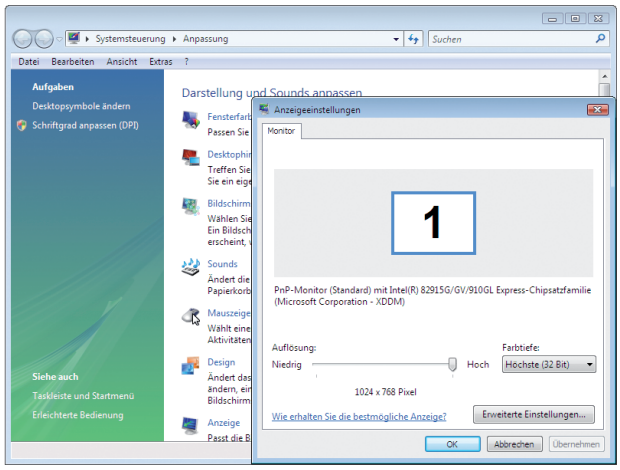
Operating systems are continually being improved to meet the steadily increasing requirements of users. These days, Windows XP and Windows Vista are professional operating systems that provide more than sufficient multimedia functionalities. For reasons concerning system stability as well as data safety we recommend using one of these operating systems.
Should other systems be connected to the PC then it could be that there are other minimum system requirements. Observe the minimum system requirements of all connected systems.

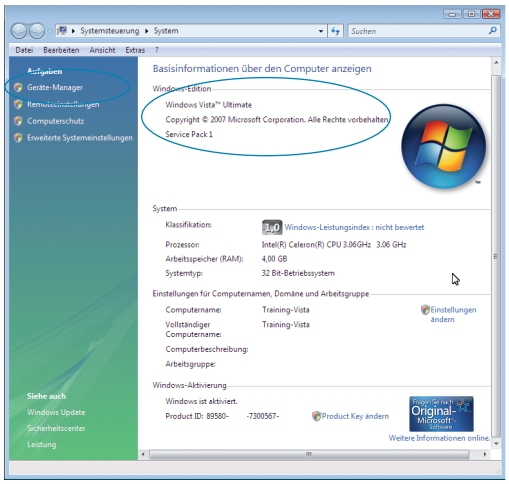
1.1 General minimum system requirements

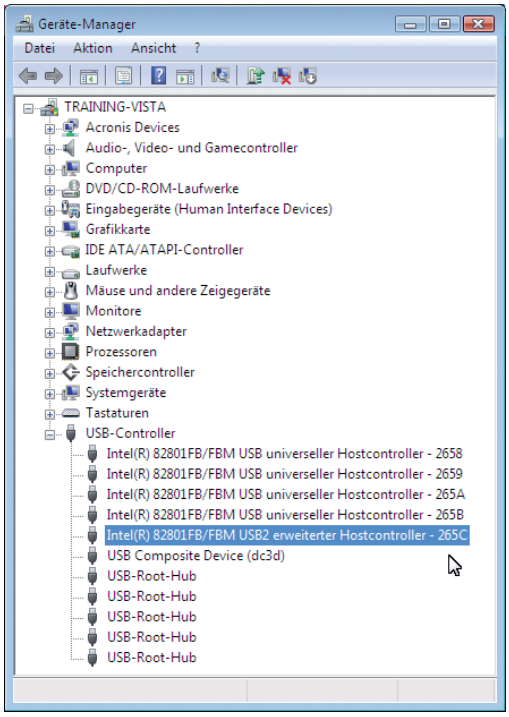
CPU:	Intel Pentium IV compatible, 1.4 GHz or higher, no Celeron, no Duron
RAM:	1 GB (recommended 2 GB)
Operating system:	Single-workstation system / multi-workstation system (network at least 100 MBit via switch): Microsoft Windows XP Professional, 32 bit, Service Pack 3 Microsoft Windows Vista, 32 bit, Service Pack 2 (Home Premium or higher)
Hard disk:	Workstation (without database) ≥10 GB Hard disk database >100 GB
	The memory requirements should be based on the imaging done in the surgery
Drive:	DVD-ROM
Data backup:	Recommended for the daily data backup: Streamer (DAT, DITTO, TRAVAN, ADR (OnStream))
	The DBSWIN database must be saved with the daily surgery data backup.

1.2 Device-specific minimum system requirements

		VistaCam	VistaCam CL	VistaCam CL.iX	VistaCam Digital	VistaProof	VistaScan Plus	VistaScan Perio Plus	VistScan Mini / VistaScan Mini Plus	VistaRay6	DBSWIN V 5.0
Mainboard (No SIS- and ALI-Chipset):	Intel-Chipset / Via-Chipset	X	X	X	X	X	X	X	X	X	X
	Nvidia-Chipset / AMD-Chipset						X	X	X	X	X
Interfaces:	USB 1.1 Interface						X			X	
	USB 2.0 Interface			X	X	X		X	X	X	
	Parallel interface, Mode EPP conforming with IEEE 1284						X				
	Ethernet 100 Mbit							X	X		X
	PCI-BUS 2.0 Busmaster-capable for Frame-grabber	X	X								
Graphics board:	DirectX 9.0c with Direct Draw 9.0 support or higher	X	X	X	X	X	X	X	X	X	X
	Resolution at least 1024 X 768	X	X	X	X	X	X	X	X	X	X
	Depth of colour 32 Bit, 16.7 million colours	X	X	X	X	X	X	X	X	X	X
	Memory ≥ 16 MB						X	X	X	X	X
	Memory ≥ 128 MB	X	X	X	X	X					
	No shared memory	X	X	X	X	X					
Special accessories:	Framegrabber card	X	X								
	Monitor according to the radiation control act, SVGA 17”, ≥ 1024 x 768 pixels, 24 / 32 Bit depth of colour						X	X	X	X	
Maximum total cable length:	USB: 5 m						X	X	X	X	
	Additional 3x USB repeater (Max. 5 m each) possible:						X				
	Composite: 10 m	X	X								
	S-Video: 5 m	X	X								







2. General Factory Settings on the PC

2.1 Adjusting the Graphic Card

Depth of colour: at least 24 bit or 32 bit
Resolution: 1024x768 pixels with 17“ monitors,
1280x1024 pixels with 19“ monitors.

TFT PC monitors must always be set to the native resolution.

Windows can only reproduce full grey scales with a colour depth of
24 BIT.

- Right-click on the desktop symbol.
- Click on Properties in the pull down menu.
- Click on the Settings tab.
- Enter the settings given above.

2.2 Checking the USB interface

Applies only with connection from VistaScan Plus and VistaScan Perio via USB!
The following operating systems support this port.

Windows Vista: Ultimate (min. Service Pack 1)
Windows XP: Professional / Home (min. Service Pack 2)

- Open system properties (right-click on My Computer, Properties).
- Check the version number of the Service Pack and update if necessary.
- Open device manager (right-click on My Computer, Properties, Hardware, device manager).
- A USB port is available if "USB Controller“ is listed in the list of devices.

3. X-Ray Image Files Sizes

A single day in the normal surgery

Number	image plate	Resolution	File size per image plate	Data quantity per day
10	Intra Size 2 (3 x 4)	20 Lp / 25 µm	3.8 MB x 0.25 = 0.95 MB	9.5 MB
3	OPG Size 15x30	5 Lp / 100 µm	8.3 MB x 0.25 = 2.08 MB	6.23 MB

Total amount of data:	
Daily:	15.8 MB
Monthly:	474 MB
Per annum:	5.69 GB

Archive medium per annum
1.2 DVD single (one-side recording) at 4.7 GB
0.6 DVD double (two-side recording)

1 day in an orthodontist surgery

Number	image plate	Resolution	File size per image plate	Data quantity per day
10	OPG Size 15 x 30	5 Lp / 100 µm	8.3 MB x 0.25 = 2.08 MB	21 MB
3	Ceph Size 18 x 24	5 Lp / 100 µm	7.6 MB x 0.25 = 1.9 MB	9.5 MB

Total amount of data:	
Daily:	30.5 MB
Monthly:	915 MB
Per annum:	11 GB

Archive medium per annum
2.4 DVD single (one-side recording) at 4.7 GB
1.2 DVD double (two-side recording)

Example for your surgery

Number	image plate	Resolution	File size per image plate	Data quantity per day

Total amount of data:	
Daily:	..... MB
Monthly:	..... MB
Per annum:	..... GB

Archive medium per annum
..... DVD single (one-side recording) at 4.7 GB
..... DVD double (two-sided recording)

Software



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DBSWIN Version 5

1. Notes

The following information concerning the installation of DBSWIN is supplementary to the DBSWIN manual.

It is important to follow the instructions in the DBSWIN manual (order number 2100-725-91/..). . This contains further important information on how to use, install, configure and operate the system.

1.1 Minimum system requirements

For current minimum system requirements see minimum requirements on imaging computer systems Order Number: 9000-618-148/....





2. First steps

You must have administrator rights in order to install and configure DBSWIN. If necessary, contact your IT expert.

- Close all programs which are currently running.
- Place the DBSWIN DVD ROM in the DVD drive. The DVD menu will start automatically.
  If the window does not appear automatically, select the DVD drive in "My Computer" and start the "CD_Start.exe" file.
- Select the required installation language.
- Click on "DBSWIN Installation".
- Click on "OK".



- Read the information and follow the instructions.

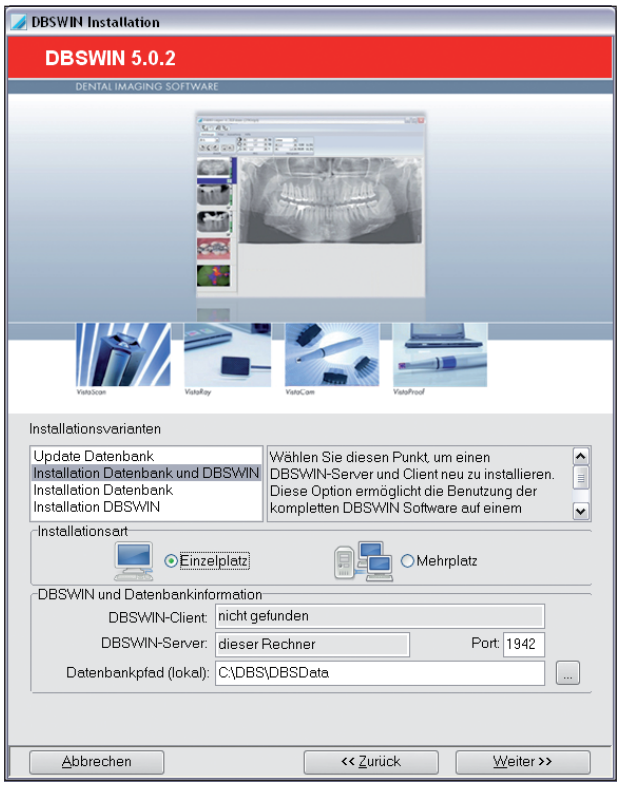
Click on "Continue".

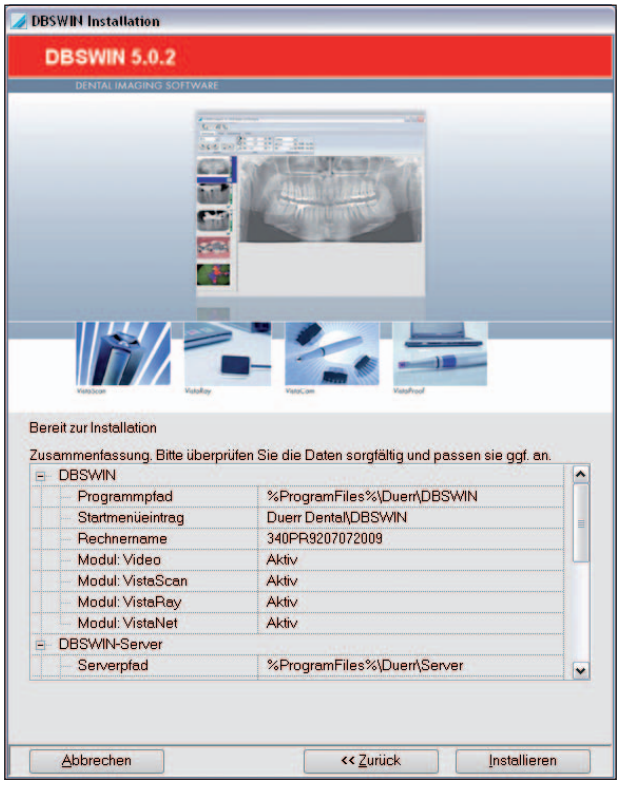
- Read the End User Licensing Agreement (EULA).



- Click the "Accept" checkbox to enter a tick (checkmark) to continue.

Click on "Continue".





3. Single Workstation Installation

Installation variants

- Click on "Database and DBSWIN installation".

DBSWIN, the server service and the SQL database will be installed. Here the computer serves as both client and server at the same time.

- Select "Single-workstation" under "Installation type".
- Accept or modify the (local) database path.

Click on "Continue".

- Check/Change surgery name.

Click on "Continue".

Prepare for installation

- Check all selected settings.

Individual modules can be activated or deactivated at any time under "DBSWIN->Module". All modules are installed at the same during the installation, depending on the selection, but not displayed when using DBSWIN.

- Click on "Install".

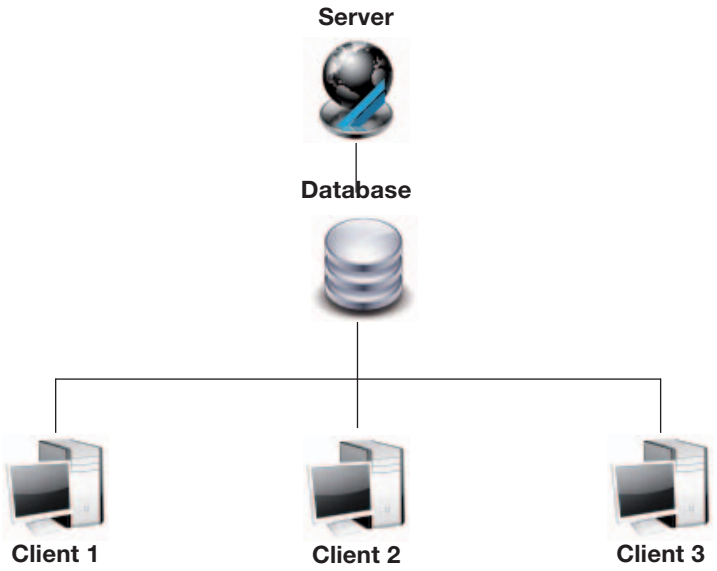
The setup program will now run automatically and install the individual components.

4. Network Installation

4.1 Important information - prior to installation

- Your server must have a drive with sufficient partition size available. We strongly recommend the NTFS file system.
- DBSWIN is a so-called client/server database application. For installation, the database drives must be identically "mapped" on all workstations or entered in the database path using UNC paths.

4.2 Example layout of the installation structure



1st step: Database installation (Server)

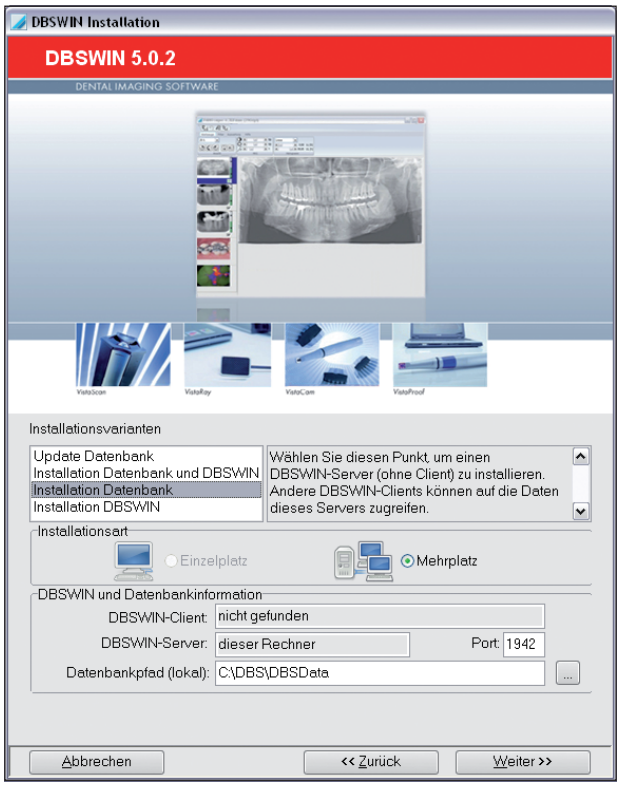
For each client to be able to access the SQL database it must be installed on a server.
The SQL database and the server service must be installed on the common server drive before installing the clients.

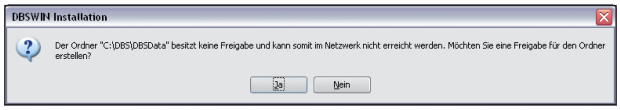
2nd step: DBSWIN installation (Clients)

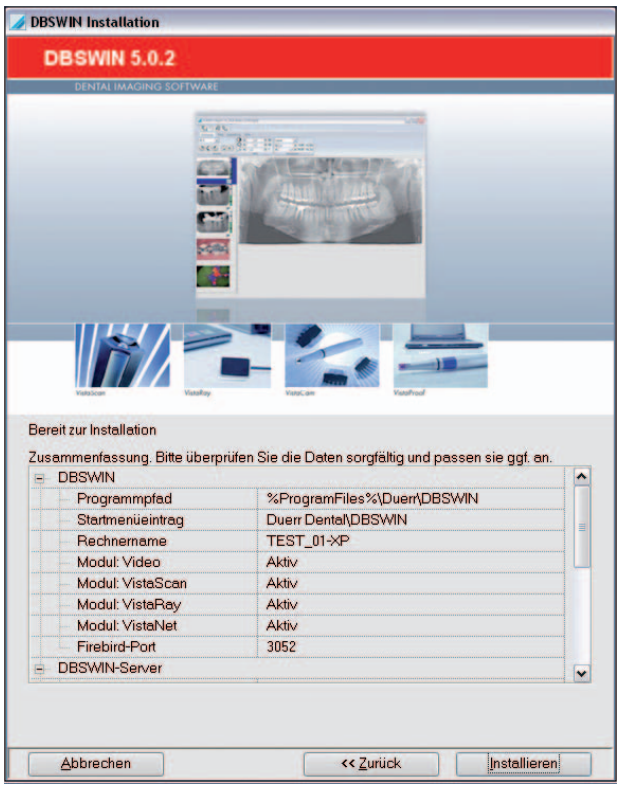
The application software (i.e. DBSWIN) will be installed on the local drive of the client.
The SQL database on the server will be linked to the application program during the installation.

4.3 Preparation for installation

- The common server drive is displayed on all clients and the server itself.
  The same drive path must be present (e.g. Z:) there.
- The ports that are used in the installation must be freed in the firewall (Standard ports: 1942, 3052).







4.4 Installation of the database (server)

The chapter "Network Configuration“ shows an example configuration for a Windows 2003 server and an example configuration under Windows XP (Workgroup Peer-to-Peer-Network).

The installation must be carried out on the server!

Installation variants

- Click on "Database installation".
- Enter the (local) database path.

This indicates where the SQL database is physically stored from the (local) server perspective.

Click on "Continue".

- Confirm the message with "Yes".
- The "DBSData" directory must be released in the network for all users with full access.

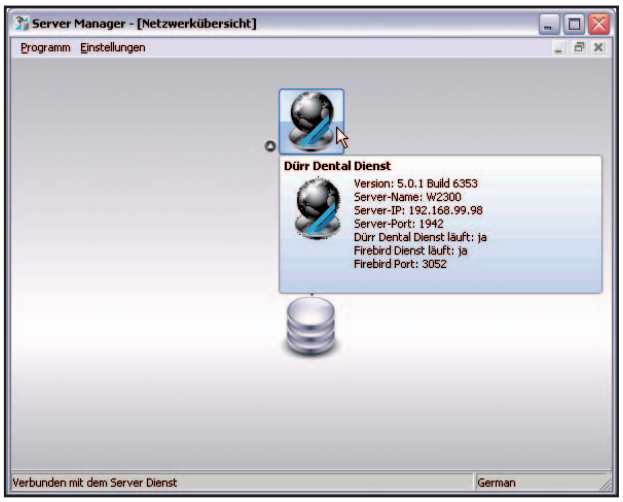
Click on "Continue".

- Enter the surgery name and click on "Continue".

Prepare for installation

- Check all selected settings.
- Click on "Install".

The setup program will now run automatically and install the individual components.



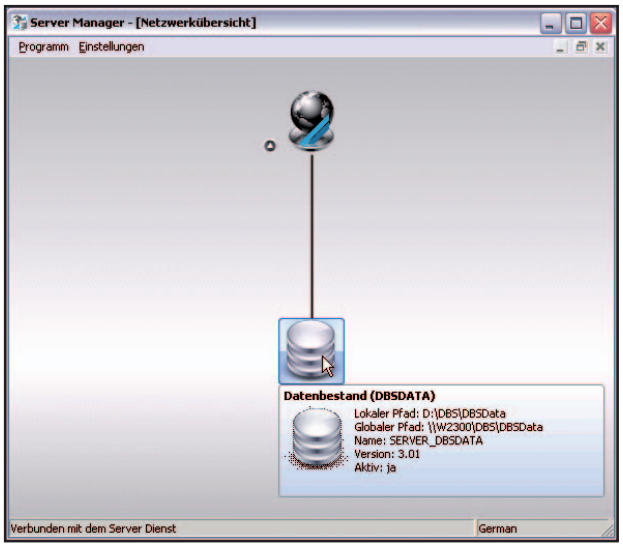
Checking in the DBSWIN Server Manager

The correct installation of the services can be checked in the "Server Manager".

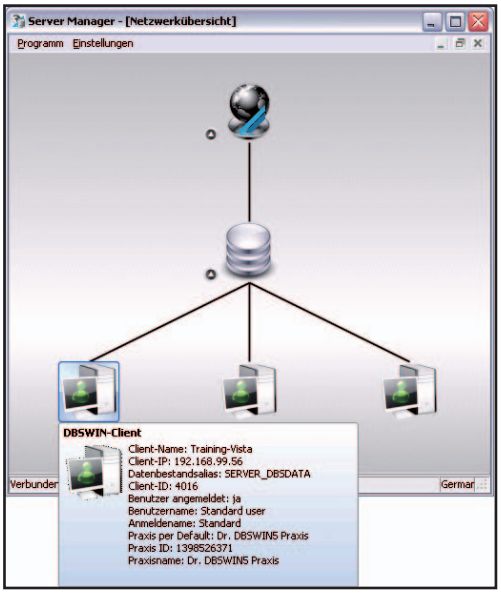
- Start the Server Manager with "Start“ - "All programs“ - "Dürr Dental“ - "DBSWIN“ - "Server Manager“.

Only run the Server Manager on the computer that is used as the "Server“.

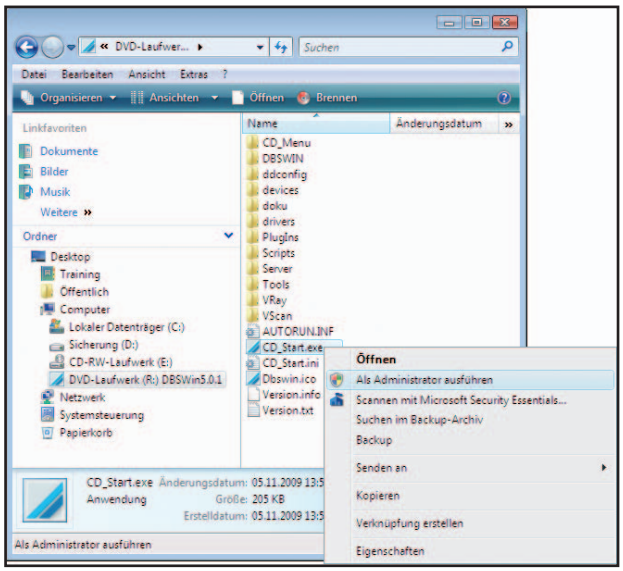
- The status and the configuration are shown by moving the mouse over the Dürr Dental service.



- Moving the mouse over the data inventory shows the local and global path as well as the version number of the SQL database and the current status.



- Display of the Server Manager with 3 registered DBS-WIN - stations (example).



4.5 Installation of DBSWIN (clients)

The installation must be carried out separately on the clients!

Installation variants

- Click on "Installation Client".

DBSWIN will be installed on the client.

- Click on the button with the three dots.
- Specify the DBSWIN server.
  The following methods are available for this:

Enter the IP address and port (optional) directly

Enter the IP address and port of the server and click on "Find". The server will be searched. When the server has been found, confirm it.

The IP address of the server can be requested using the entry prompt of the server and the "C:\>ipconfig" command.

Select the server from a list

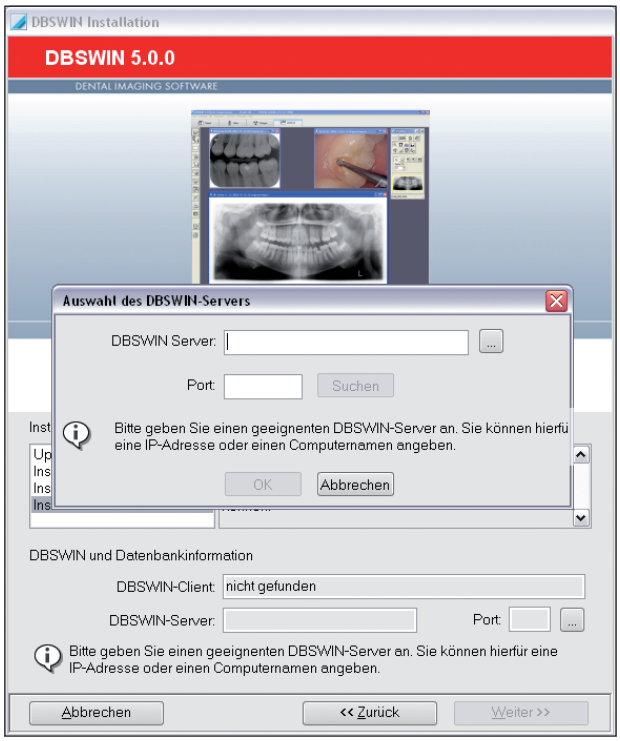
Click the button with the three dots and select the server from the list. There is no guarantee that the server will be found in this list.

- Click on "OK".

If the server has been selected from a list, the "Search" button also needs to be clicked.

- Click on "OK".
- Click on "Continue".





Prepare for installation

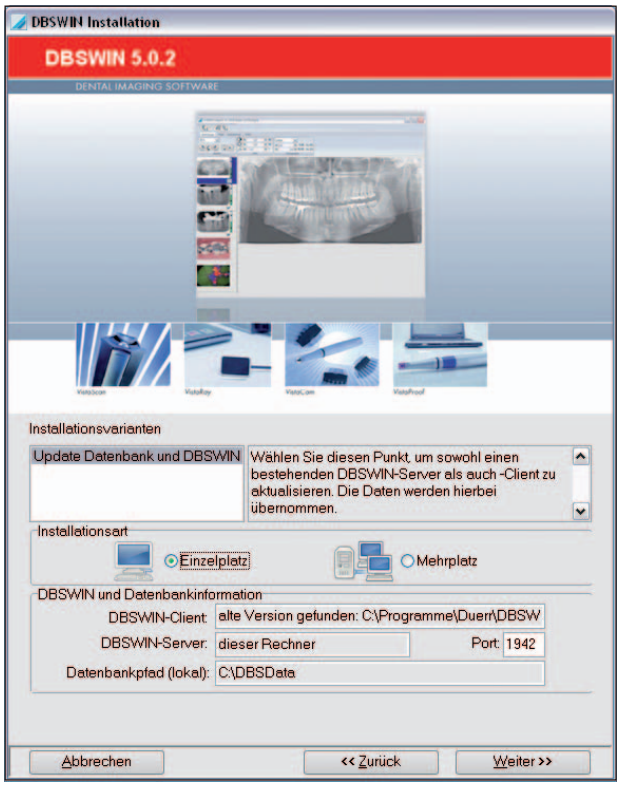
- Check all selected settings.

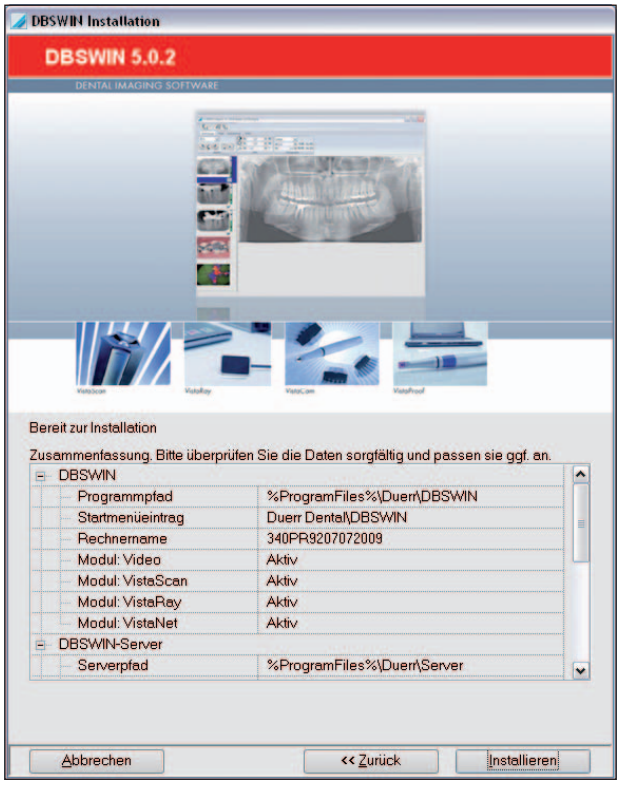
Individual modules can be activated or deactivated at any time under "DBSWIN->Module". All modules are installed at the same during the installation, depending on the selection, but not displayed when using DBSWIN.

- Click on "Install".

The setup program will now run automatically and install the individual components.







5. DBSWIN - Update

The DBSWIN software installed on the PC is updated during the update process. The update also includes new and improved program functions.

An intermediate update to DBSWIN 4.5.3 must always be performed before any update/upgrade to DBSWIN 5. This installation can be found on the DBSWIN DVD under "\Tools\DBSWIN_4.5.3". To do this, start the "CD_Start.exe" file.

Installation variants

The server must be updated first. Only then can all clients be updated.

- Close all clients.
- Select the required update.

Click on "Continue".

The database paths are transferred automatically. These do not need to be changed.

Prepare for installation

- Check all selected settings.

The individual modules that are not used in the surgery can be "deactivated" under "DBSWIN->Module". The modules will nevertheless be installed during installation although they will not be displayed under DBSWIN.

- Click on "Install".

The setup program will now run automatically and install the individual components.

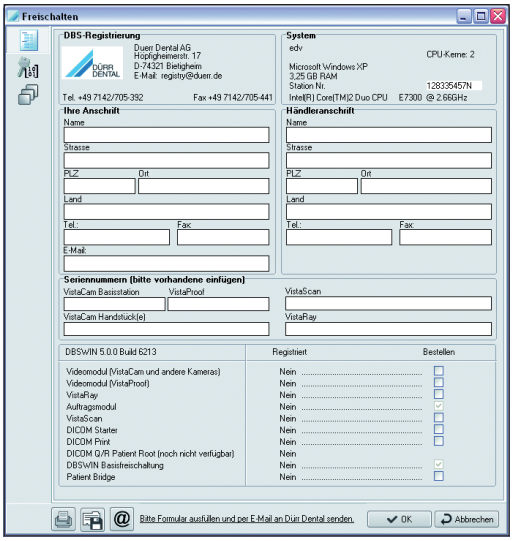
6. DBSWIN - Central activation

Transmission of the registration data

To activate DBSWIN centrally, the registration data needs to be sent to Dürr Dental first.

Additional costs apply for the registration. The prices can be found in the latest Dürr Dental price list or ask your dental dealer. Without this activation a maximum number of 30 patients can be stored in the database with the full software functionality. After storing the 30th patient, there are 30 days left for testing DBSWIN.



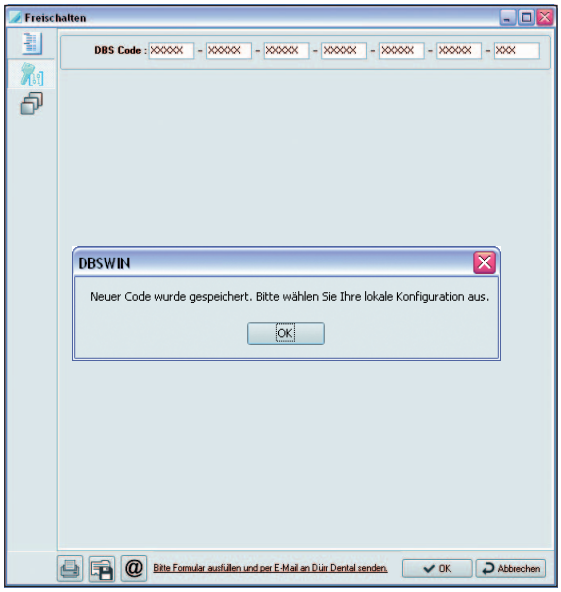


- Open DBSWIN.
- Click on "Login".
- Activation window starts automatically.
  The activation window can also be opened manually in the "Help" menu under the menu item "About DBS-WIN".
- Click on "Register".
- Enter the addresses and serial numbers of the appliances in the top field of the registration window.
- Select the modules to be activated in the bottom field.

The order module and the basic DBSWIN activation are selected by default and do not need to be activated.

- Send the registration to Dürr Dental by telephone, fax or e-mail.

If the registration is made by phone, the details on the registration form as well as the station number should be kept at hand.

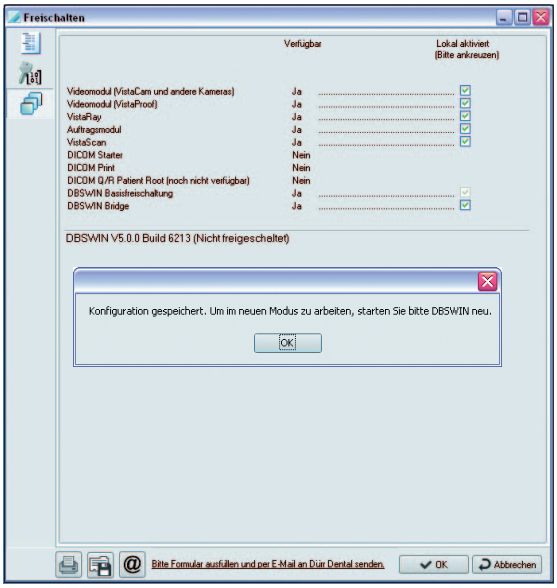


Enter the activation code centrally

- When the activation code has been received, click on the "Code" tab.

The central activation code can be entered from any workstation computer in the network.

- Enter the activation code in the fields and confirm with the "OK" button.
- Confirm the message with "OK".



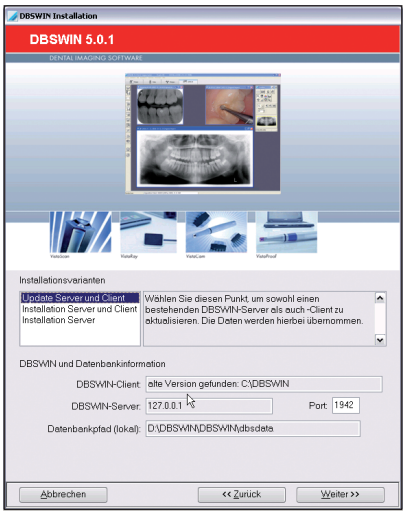
Make local settings

The local settings are to be made at every workstation.

The left column shows what was activated. The modules to be used on the workstation can be selected in the right column.

- Select the modules to be used on the workstation in the right column.
- Confirm the settings with the "OK" button.
- Confirm the message with "OK".

7. Database migration: Update of version 4.5.3 to 5.0.x

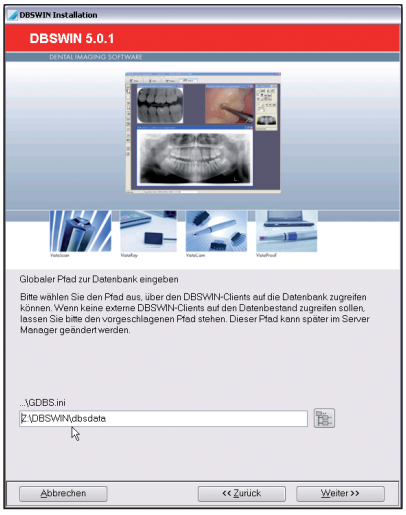


Installation variant: Update Server and Client

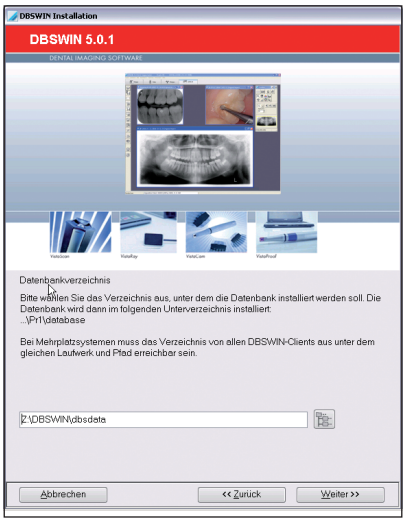
In order to perform an update from a previous version of DBSWIN to version 5.0.x, at least DBSWIN 4.5.3 must be installed. The database migration must be performed directly on the DBSWIN server.

The installation assistant automatically recognises a previously installed program version and takes over the path settings.

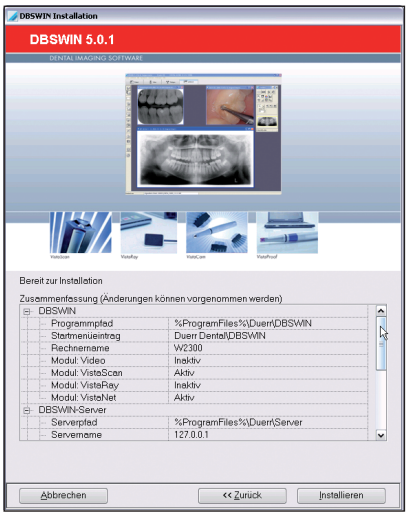
- Select the Update Server and Client
- Check determined paths, click on "Next“



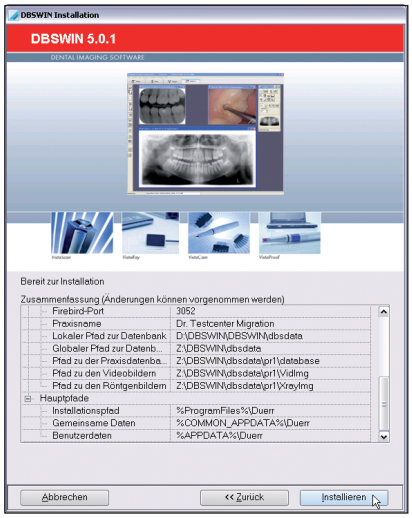
- Check the global path for the "GDBS.INI“ file and click on "Next“.



- Check the database directory, X-ray directory and video image directory in the following windows and click on "Next“.



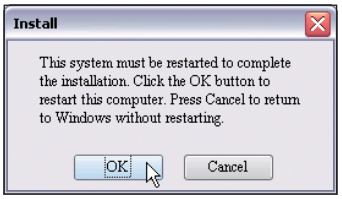
- Activate required modules for this workstation or deactivate and check the remaining settings...



- Final check. the installation paths, then start the update and the migration by clicking on "Install“.

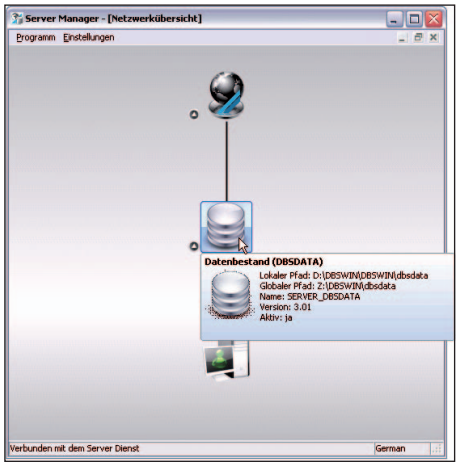


Database migration status window...



After a successful update and migration, restart the computer.

Checking in the DBSWIN Server Manager

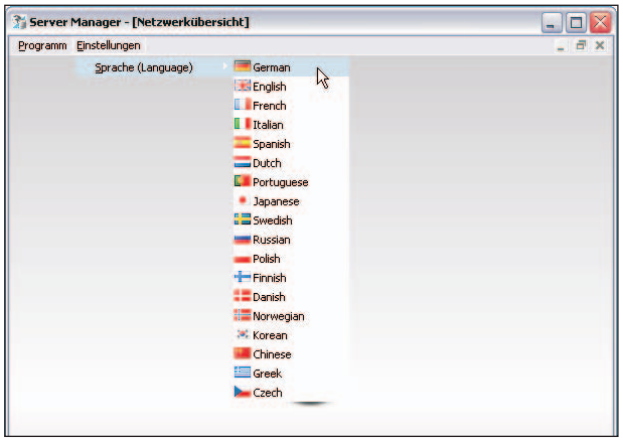


After the restart, the version of the database can be checked in the Server Manager under "Data Inventory". (See also chapter 6, "Server Manager“).

8. Server Manager

8.1 General functions and application

The Server Manager is used for centrally managing and configuring the network services and the DBSWIN data inventory. There are also tasks for saving and restoring the SQL databases and for intercommunication with clients here. For maintenance work on DBSWIN data inventory, the Server Manager is also used. The Server Manager is installed and configured during the DBSWIN Installation by the system administrator or by the technician..



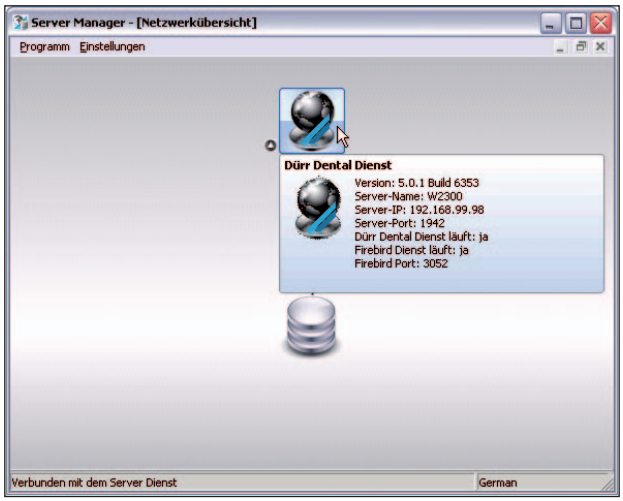
8.2. Starting the Server Manager

Only run the Server Manager on the computer that is used as the "DBSWIN Server".

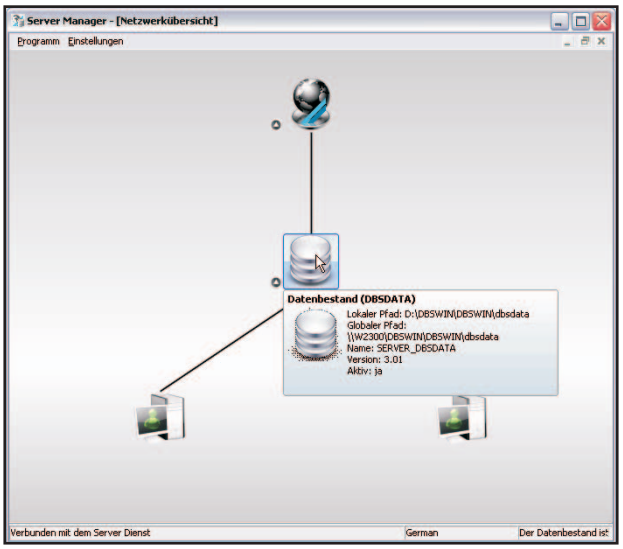
- Start the Server Manager with "Start" - "All programs" - "Dürr Dental" - "DBSWIN" - "Server Manager".

Language Settings

- The desired language is selected for the Server Manager via "Settings" - "Language".

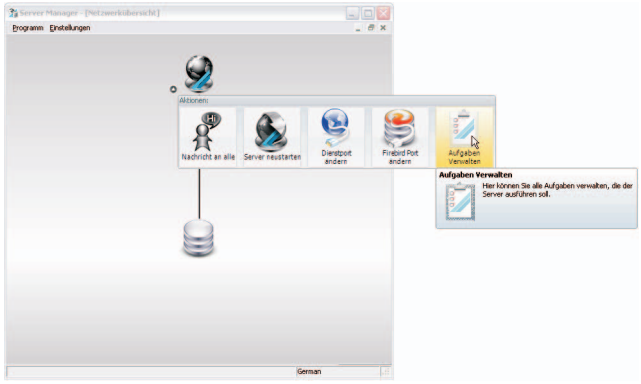


- The respective features are displayed by moving the mouse over the "Dürr Dental Service" icon.
- Clicking on the "Duerr Dental Service" icon brings up other possible actions for managing the service and the job management.

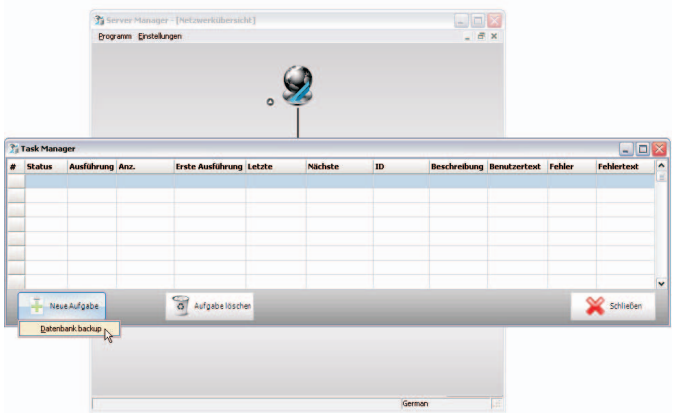


- The respective features are displayed by moving the mouse over the "Data inventory" icon.
- Clicking on the "Data inventory" icon brings up other possible actions for managing the data inventory.

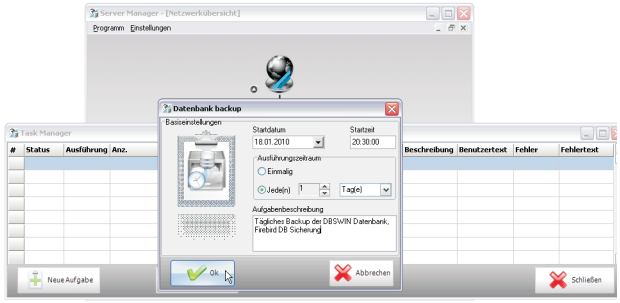
8.3 Managing Tasks - Creating a new save job



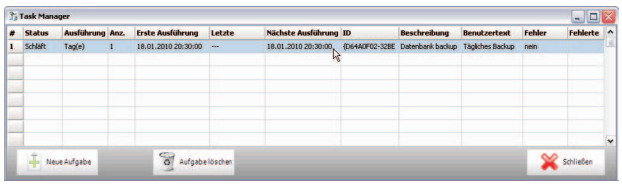
- Click on the "Dürr Dental Service“ icon, click on "Manage tasks“.



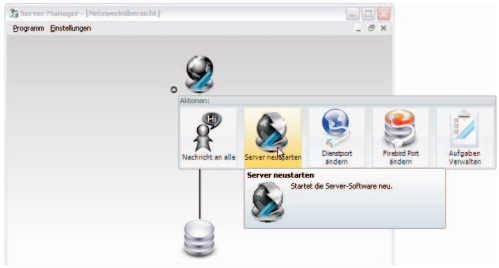
- Click on "New Task“, select "Database backup“

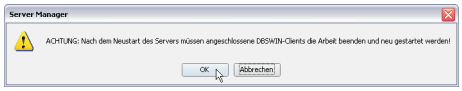


- Fill out the required fields for a new save job, to e.g. create a backup of the Firebird SQL database every day at a certain time.

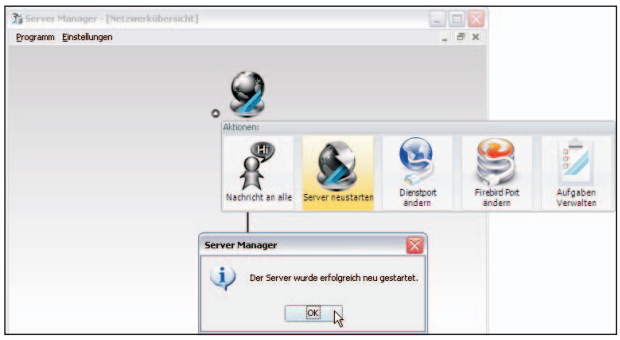


- The created save job and its characteristics are shown in the task manager.

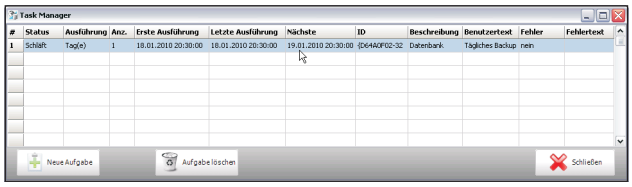




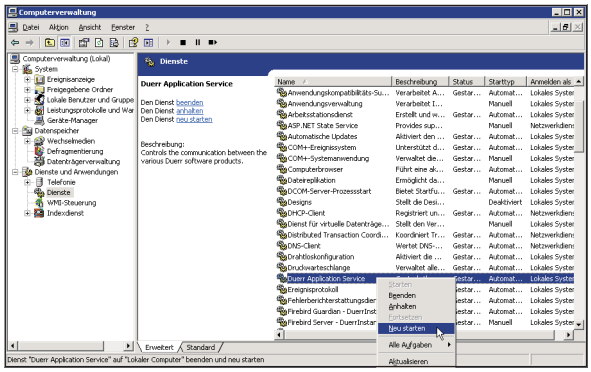
After creating a new task, the "Dürr Dental Service“ should be started again via the Server Manager.



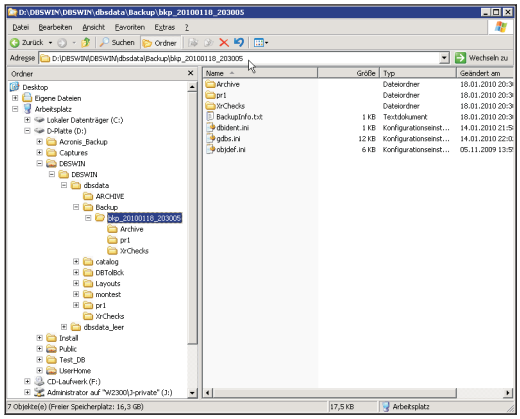
- Message "Dürr Dental Server Service“ restarted successfully.



- Display of the Task Manager after a backup.

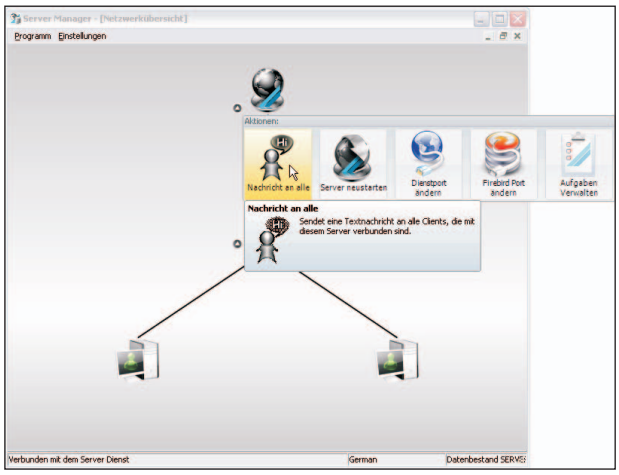


The "Dürr Dental Service“ can also be checked in the Windows Service Management. It is listed there as "Duerr Application Service“.
The Firebird SQL Server Service is listed as "Firebird Server - Duerr Instance“ and "Firebird Guardian - Duerr Instance“.



8.4 Where are the database backups written?

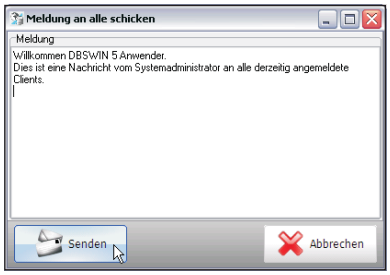
The Firebird database backups are put on the "DBSWIN Server". A directory "Backup“ is created under the central folder "DBSData“. The backups, designated with the date and time are created under this.



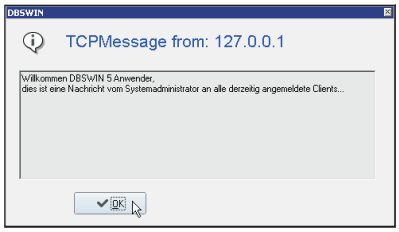
8.5 Sending messages to registered clients

For administrative purposes, central messages can be sent to all connected DBSWIN Clients from the Server Manager. The messages are sent via the TCP network protocol.

- Click on "Dürr Server Service".
- Select "Message to all".
- Create message.
- Click on "Send".



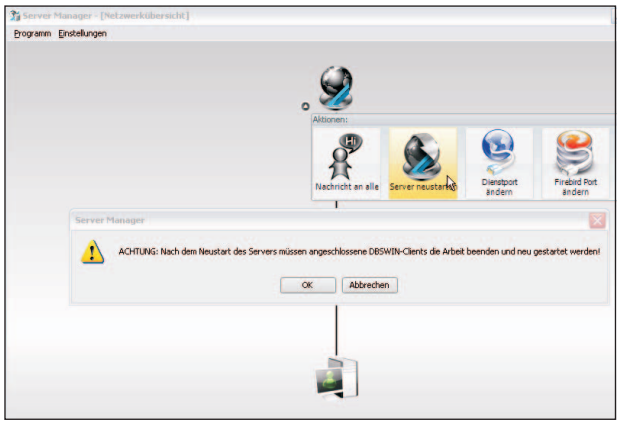
- Message to a client station



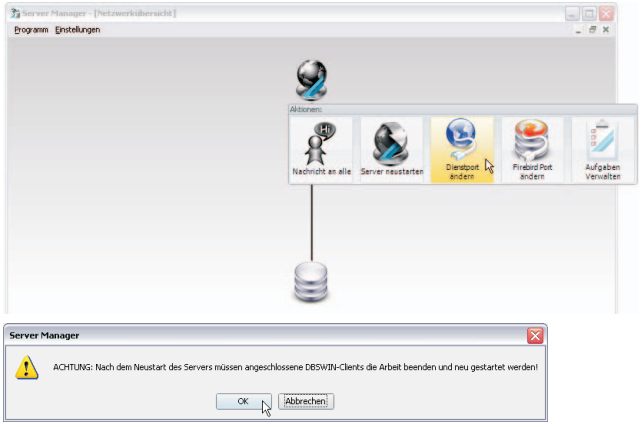
8.6 Restarting server services

The services "Dürr Dental Server" and „Firebird Server" can be restarted from the Server Manager. This results in all connected clients having to re-register with DBSWIN.

- Click on "Dürr Server Service".
- Select "Restart server".
- Confirm the message with "OK".



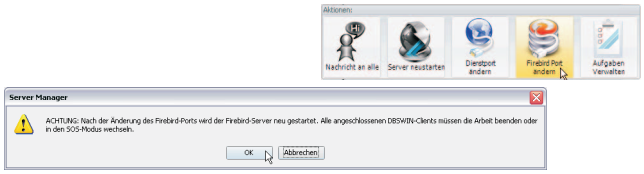




8.7 Changing Service Ports

Changing Dürr service port

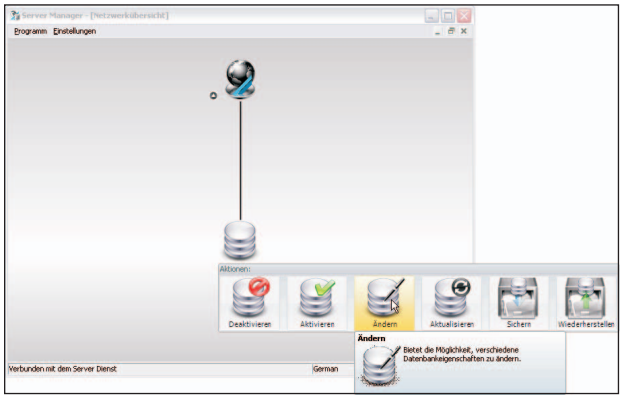
- Click on "Dürr Server Service".
- Select "Change service port".
- Read messages and confirm with "OK“



Change Firebird Port

- Click on "Dürr Server Service".
- Select "Change Firebird Port".
- Read messages and confirm with "OK“

Changing the server port may be necessary if other software makes it necessary to keep standard TCP ports "1942“ and "3052“ free.



8.8 Changing Data Inventory

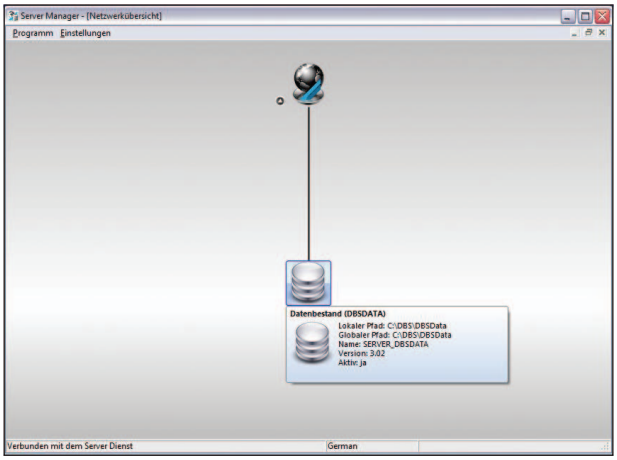
see 6.9, Moving the data inventory as of "Step 2“, Switching to desired local and global path

8.9 Moving the Data Inventory

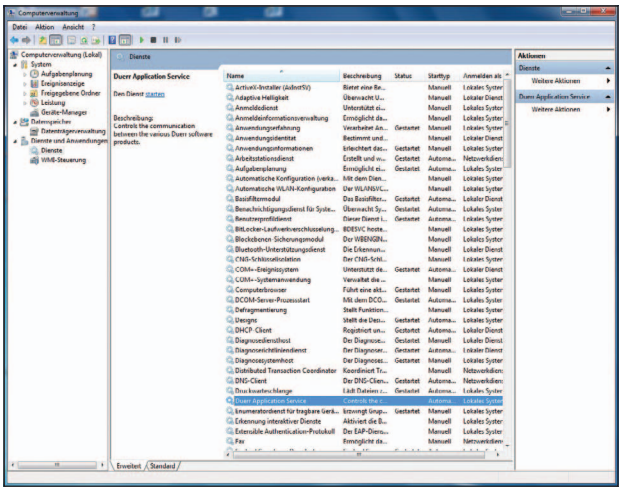
Example: Moving a single-location system on a network system with server and clients

These instructions apply to DBSWIN Ver. 5.01 and Ver. 5.02

Relocating the entire DBSWIN data inventory from a computer (single workstation system for example) onto a new computer (server for multiple treatment units for instance) must be done in multiple steps. A functional complete data backup of the DBSWIN system must be created then



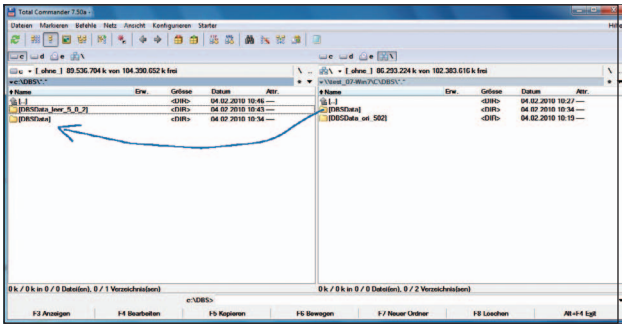
- No DBSWIN client is started, this can be checked in the Server Manager.
- Locate and note the existing local and global path using the Server Manager with "Data inventory“. (Specification signal workstation system: C:\DBS\DBS-Data with
  local path and with global path)
- Deactivate data inventory, this is then designated with the respective icon.
- End the "Duerr Application Service" in the computer management of Windows with "Services and Applications" so that no other transactions can take place on the Firebird SQL database.



- On the new server, install the same version of DBSWIN also as a single workstation system on the identical drive path with a new database. Any surgery name ("Test" for example) can be chosen here.

The local path and the global path must be chosen absolutely identical here as with previous single workstation systems. The switch to a network variant and another partition on the same server in certain cases is only done in the second work step in the Server Manager.

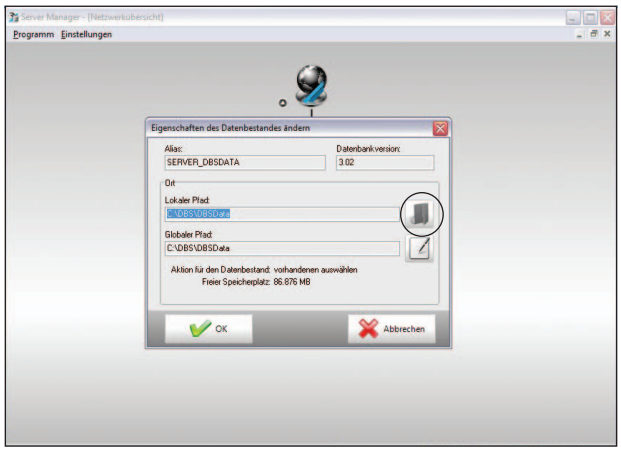
- If DBSWIN is installed correctly on a new computer, end the DBSWIN client again and end the "Duerr Application Service“ here as well.
- Rename the DBSData folder to
  e.g. DBSData_empty
- Now, the entire folder DBSData with all sub-folders and files will be copied from the existing single workstation system onto the new server (make sure of the correct path).
- Start the Server Manager and restart the server service with the "Dürr Dental Service“ icon. If the data inventory is still deactivated, activate it again and check the status.
- Start DBSWIN and make sure that the login is correct, open to test a patient and load an image in the light table.



Step 2: Switch to desired path locally and globally (e.g. UNC path or mapping) with the Server Manager

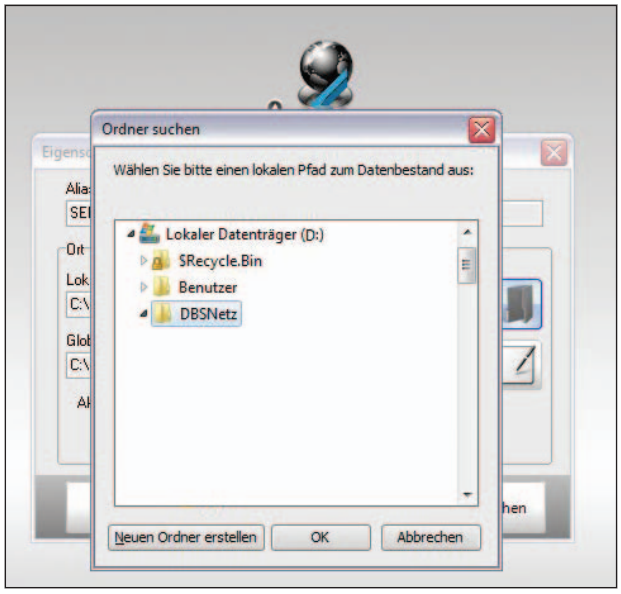
Starting the Server Manager
Click on the "Data inventory“ icon
click on "Change“

- The previous local and global paths are shown.



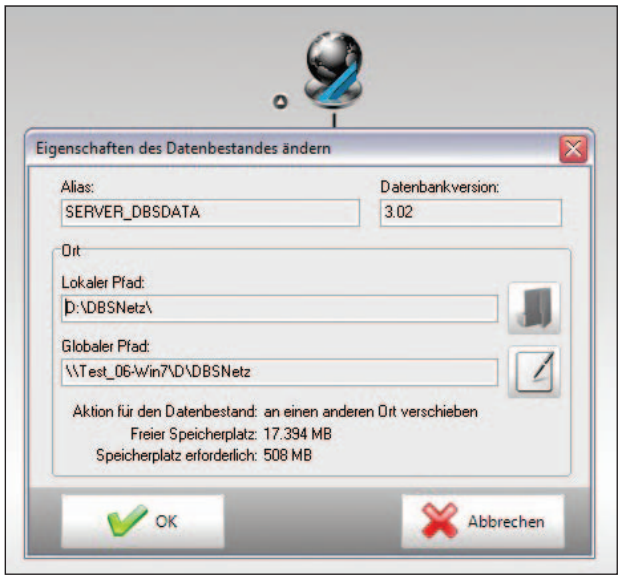
- Click on the folder system behind the line "Local path" and select the desired new path on the same server via the browser window. The new path can be located on another partition **of the same computer**, e.g. D:\DBS-Netz\.

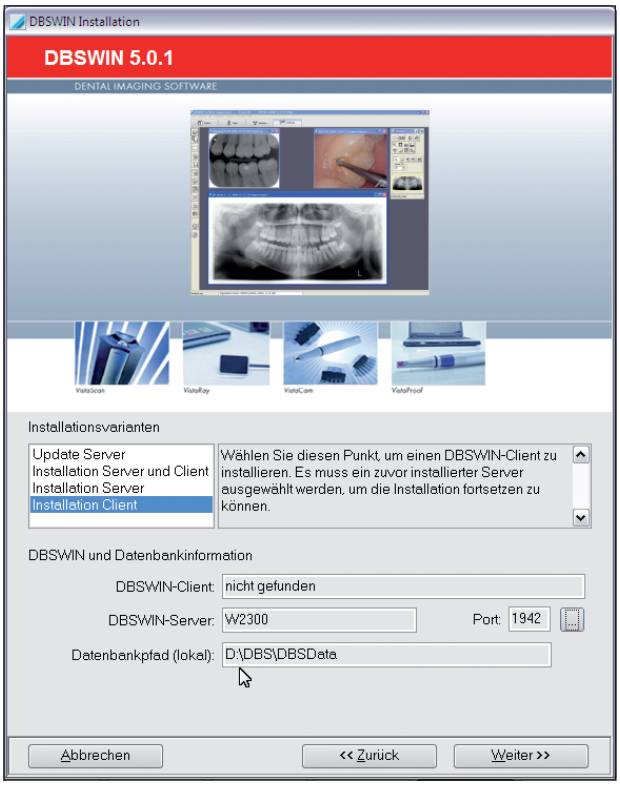
As of DBSWIN Ver. 5.0.2, the directory approval assistant as long as the folder has not been created and was enabled. Up to DBSWIN 5.0.1, the new folder has to be created first and enabled with the appropriate rights.



- The line "Local path“ now shows the desired new path from the view of the server, e.g.: D:\DBSNetz
- The line "Global path“ now shows the new path from the view of the network, e.g. URL path or mapped drive, if existing
  e.g.: \\Servername\release\folder (to global file GDBS.ini)
- Accept the new settings with OK
- A message appears if the data inventory was moved.
- The Firewall settings are to be made so that other clients can connect on the new server.
  The following ports must be opened: (pre-settings)

1942 TCP Dürr Server Port
3052 TCP Firebird Port
514 UDP Logging to DBSLOG Server







Restarting the Server Manager
Point to the "Data inventory" icon with the mouse

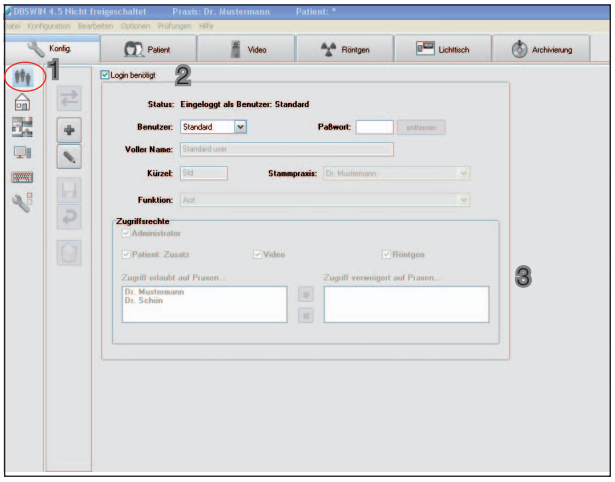
- The new local and global paths are shown.
- Check new paths
- Start the DBSWIN client and check for correct functionality

- Other clients can now be installed

See chapter 3.7, Installation DBSWIN application to clients

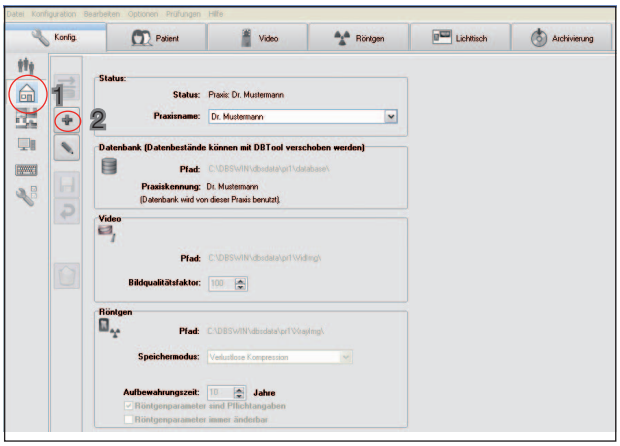
If a client should already be installed with the same version of DBSWIN in the network, switching to the new server can be done via "Option“ - "Display configuration“, menu bar "**Configuration**“ - „**Change server**“ by entering the server and making the new connection.

10. Configuration in DBSWIN



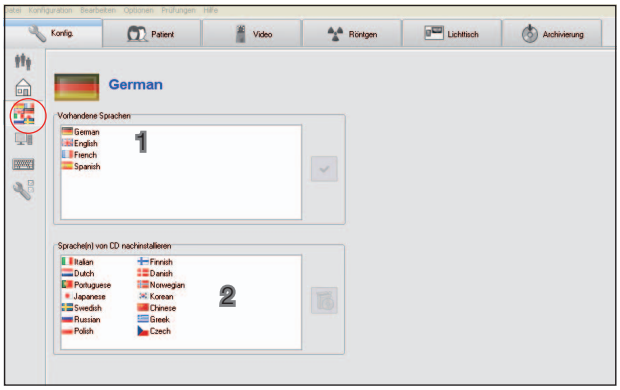
Assigning User Rights & Switching the Login On and Off

- User module (1).
- Click on "Option/Show configuration".
- Activate/deactivate the button "Login required". (2)
- Assign access rights for Administrator and Users. Add access to multiple surgeries. (3)



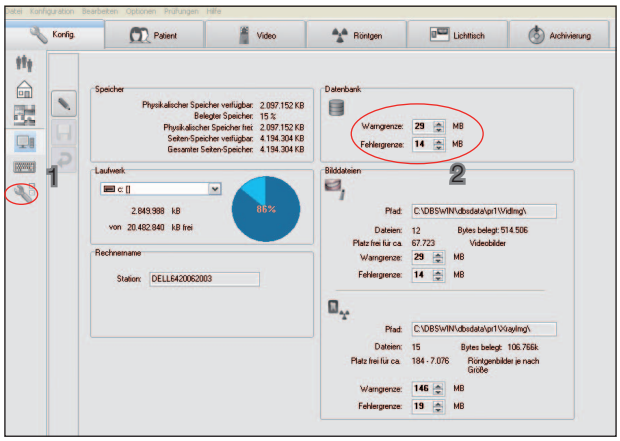
Configuration - Surgery

- Surgery module. (1)
- Create new surgery. (2)
- A data directory \Dbsdata is created for each surgery. (First surgery \Pr1\....second surgery \Pr2\...,..)



Configuration - Language

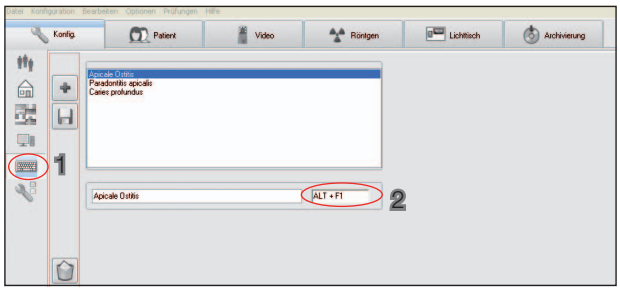
- Language module. (1)
- Change language. (2)
- Install languages from the CD. (3)



Memory allocation and system capacity

- System info module (1).
- If the available memory on the drive drops below the set values, warning messages are produced by the system. In the case of the Error Limit being reached, no more new data or images can be entered. (2)

- Set the heat limit to values that allow sufficient time for a reaction in order to remove data from storage or to procure a new drive. (3)



Diagnosis compilation

- Quick scan module. (1)
- Quick scans enable quick comments or quick diagnosis compilation. (2)

10.1 Configuration in DBSWIN module



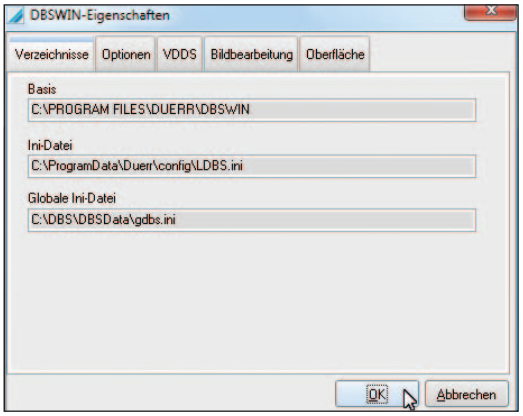
Modules:  **click**

- Click [Start], [Program Files], [VistaScan] and [VistaScanConfig].
- Start DBSWIN without a password as user [Standard] .

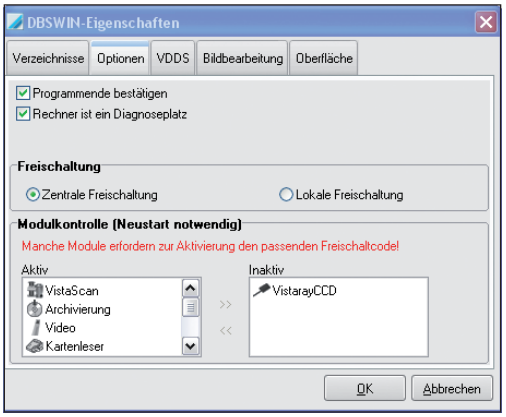
Configuration modules

- DBSWIN (Setting for directory, VDDS, module check and filter.)
- Patient (displays of concealed patients)
- Video (setting the video camera source).
- X-ray (setting the X-ray station, reduction & constancy check)
- Light table (display of concealed images and exporting files)
- Archiving : (Archiving video & X-ray images)
- VistaScan: (Settings of USB scanners)
- Foot pedal: (Activating foot scans)
- Card reader: (Activating insurance cards)
- Vista Net: (Network connection for VistaScan Perio)

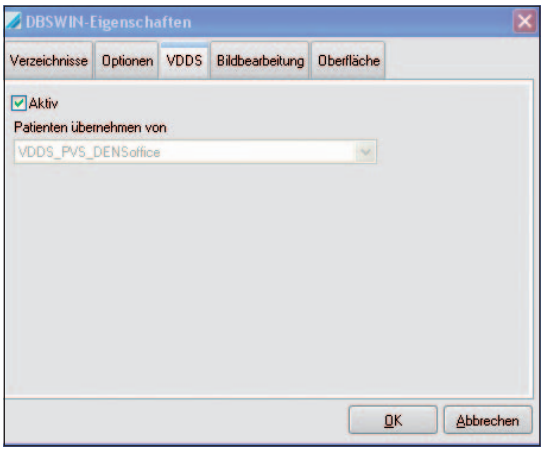
Module: DBSWIN



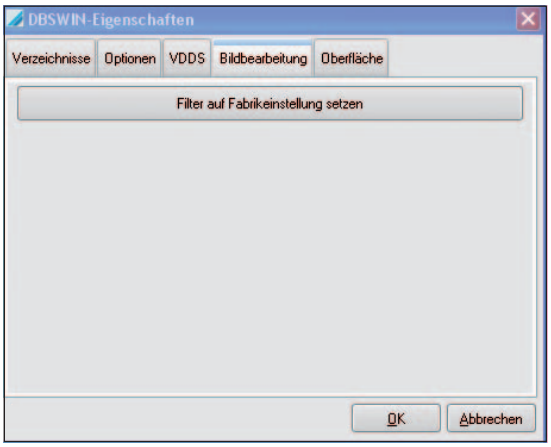
- Program directory and storage location for initialisation file LDBS.INI



- If "Confirm program end" is activated, then the query of whether the program should really be ended appears when ending DBSWIN.
- "Activate module" (double arrow to the right) or deactivate. Restart DBSWIN if there a change exists.

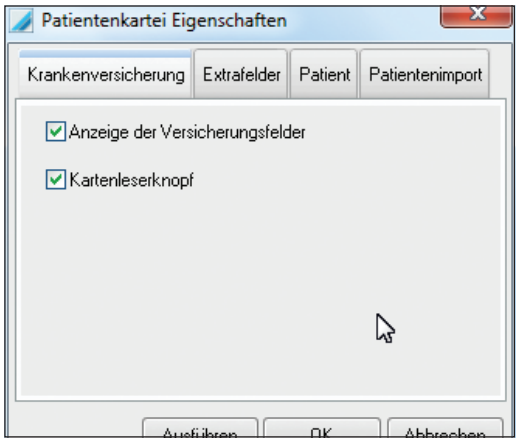


- VDDS media interface serves for communication with certain surgery management programs.
- Set the checkbox to "Active" and select the patient management program in the list.

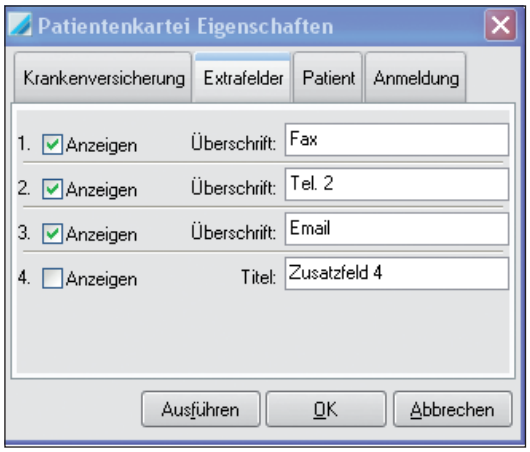


- The diagnosis-supporting filter settings are reset to factory settings.

Patient Module



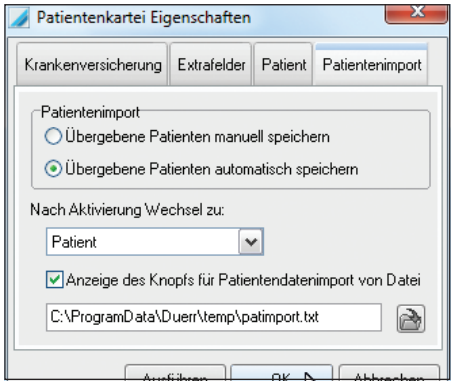
- Activate or deactivate insurance fields of the card reader head and the import button.
- For patient import: Assign the position of the import file.



- Show or hide additional fields in the patient index.

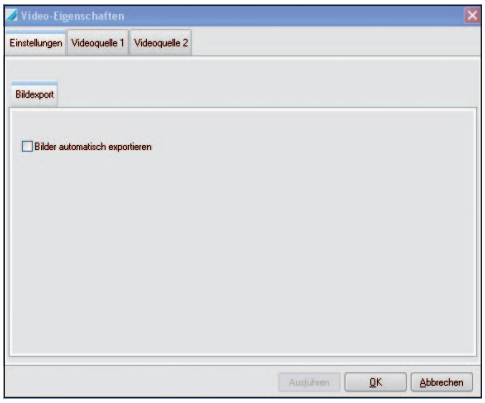


- Activation or deactivation of patients that have been designated as concealed in the database and should be displayed in the patient search list again.
- Activation of the "Patient additional information comment“ in the lower portion of the patient index.

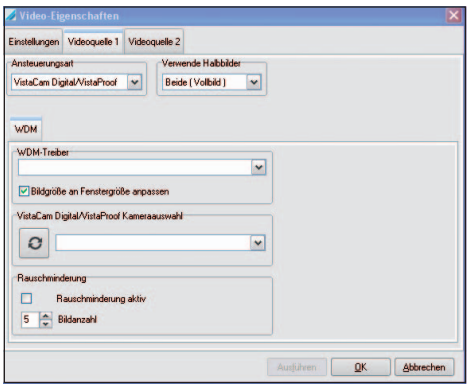


- When logging into the DBSWIN program, the activated page is shown here first. (e.g. instead of the patient index, the light table module is shown directly).

Video module

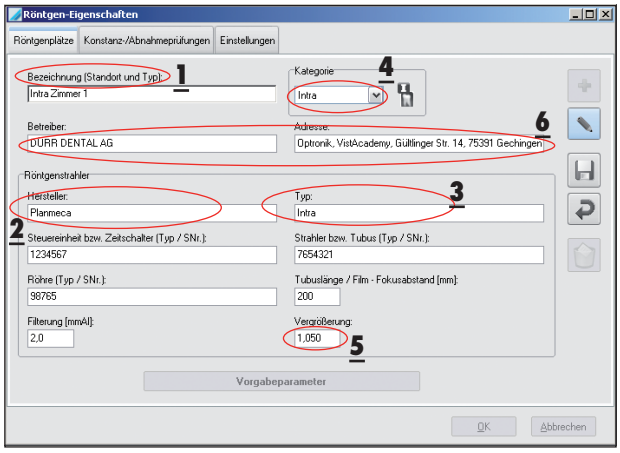


- The images that are marked in the video module for saving are stored in the database and also exported to a predefined path.
  (See light table module on page 24).



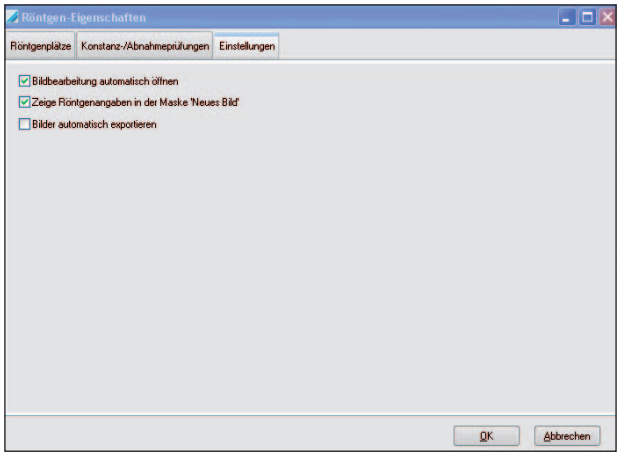
- In the "Actuation mode", choose the purchased camera and the driver is selected automatically.
- Select the function "Both full frames“.
- A second camera can be installed under "Video source 2“.

X-ray module



- (1) List of X-ray station designations (mandatory)
- (2) Manufacturer of the X-ray appliance
- (3) Name, type, serial number of the X-ray appliance
- (4) Category of the X-ray appliance (mandatory)
- (5) Magnification factor >= 1,000)
- (6) This information is automatically added to the test forms.

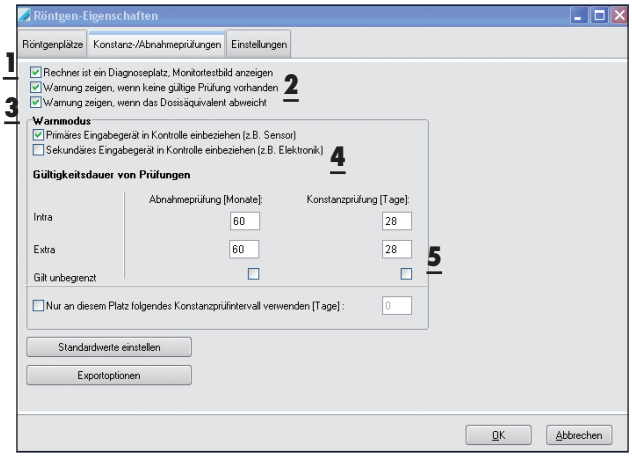
All mandatory information must exist.



- Mark checkbox "Open image processing automatically", then the image processing box is opened directly after an X-ray exposure with the respective X-ray image standard function.

- Mark checkbox "Show X-ray information in the New Image mask", then the X-ray parameters are shown in the parameter mask in the X-ray module and can be changed there.

- Mark checkbox "Export images automatically", then the saved images will also be exported in the X-ray module. (See light table module on page 24)



- Only mark the checkbox if the computer is a diagnostics station.(1)
- Mark checkbox "Show warning": DBSWIN informs the user if no valid test exists. (2)
- Checkbox "Show warning" if the equivalent dosage value deviates too greatly. (3)

Equivalent dosage value for:
Germany:
Switzerland:

Warning mode:(4)
- Primary input device: e.g. CCD sensor or VistaScan
- Secondary input device: e.g. integrate control unit or Vista

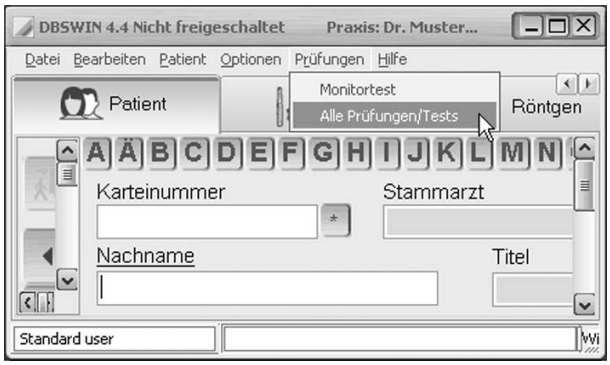
  Scan electronics into the test.

(5)

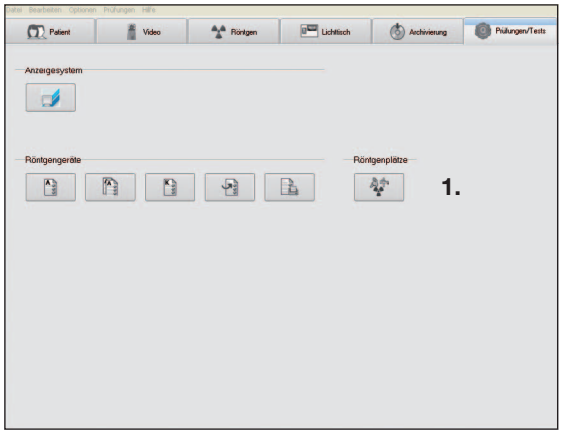
Commissioning test		Intra
OPG		
Germany:	5 years	5 years
Switzerland:	2 years	5 years

Constancy check	Intra	Extra
Germany:	28 days	28 days
Switzerland:	One station/3months	All stations/1year

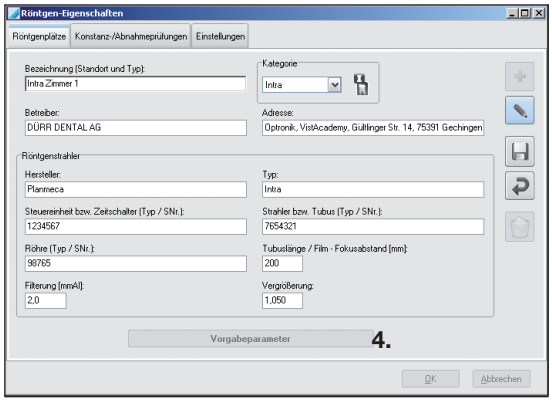
Creating X-ray tubes



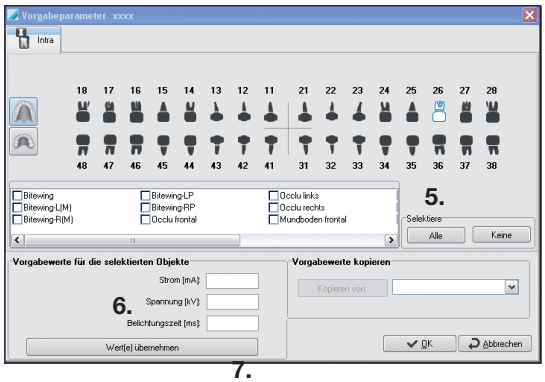
- In menu [Tests] select the line [All Tests].



- Click on the [X-ray Tubes Manager] button. (1)



- Click on the [Create new X-ray station] button. (2)
- Enter all required details into the fields. Save the details. (3)
- Click on the [Default parameters] button. (4)



- Predefine the required exposure settings for all recording situations. This requires selecting the object (5.) and entering the respective values in fields “Current“, “Voltage“ and “Exposure time“. (6)

See "Recommended exposure times“

- Confirm the entries with the button [Accept values] (7) and finalise with [OK].

Viewer module (light table)



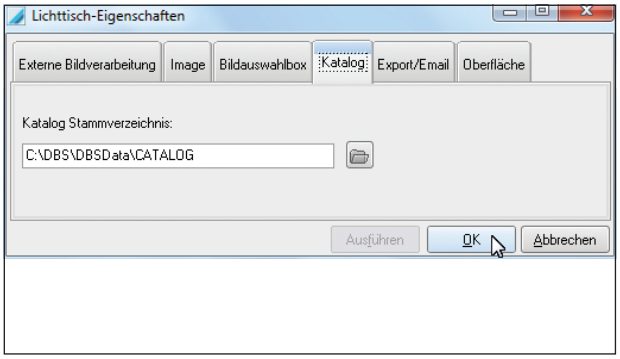
- Enter the preferred editing software for your images.



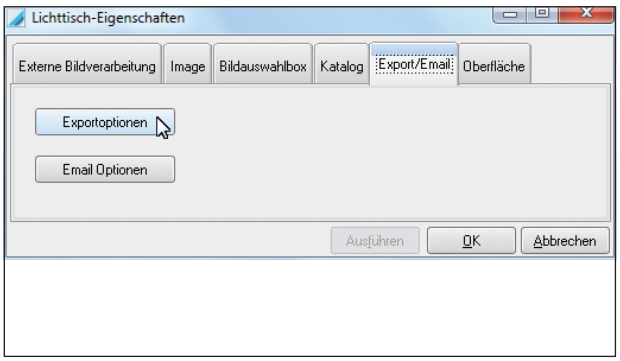
- Images that have been designated as concealed in the database are shown.
- The background colour of the light table can be selected in the "Background colour".



- Image selection box is automatically opened when activating the light table.

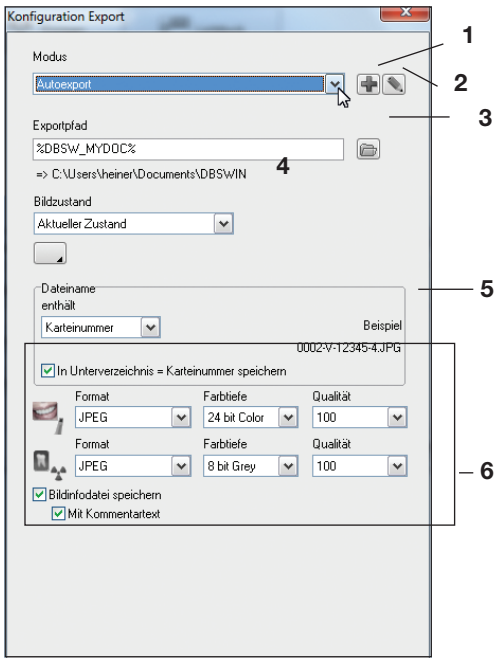


- Under the "Catalogue" tab, you can set the path of the DBSWIN image catalogue. The catalogue is for saving and calling up example images that originate from the various sources.
- In the light table, the images can be: loaded with the light table/load/catalogue and shown to the patients.



Setting export options

Default values can be configured in the export and email options in order to simplify exporting images and sending emails with attached images

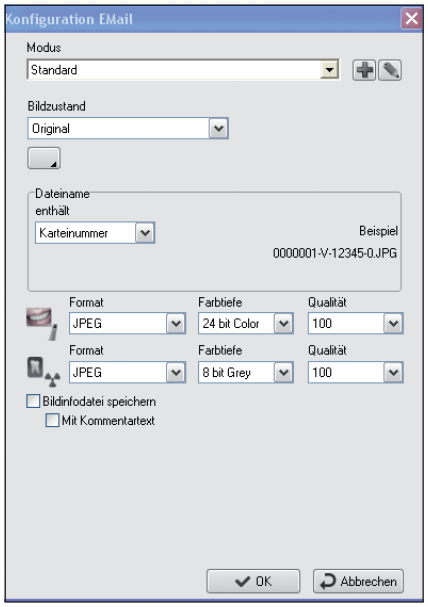


Example: Creating a new export mode

- Display the extended function view by pressing the arrow key.
- Click on the "Create new export mode" button and enter the name of the new mode in the field.
- Click on the "Select export path" button and select a folder for the export path.
- Other functions are used for setting e.g. the image condition, file name and the image format with the desired image parameters.

The image quality can be worse depending on format and quality.

1. Create a new export mode
2. Edit the export mode
3. Select an export path
4. Select an image state
5. Select a file name
6. Set image format, depth of colour and image quality



Email options

- Display the tab "Export/email" in DBSWIN under "Options/Display configuration/Modules/Light table.
- Click on the "Export options" button.

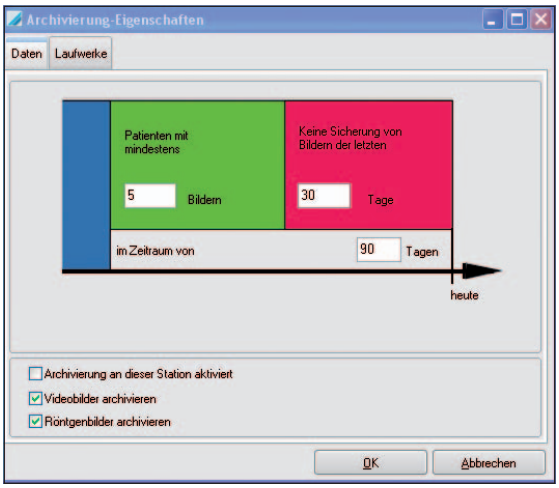
Example: Creating a new email mode

- Display the extended function view by pressing the arrow key.
- Click on the "Create a new email mode" button and enter the name of the new mode in the field.
- Other functions are used for setting e.g. the image condition, file name and the image format with the desired image parameters.

Exporting images from the light table

- Click on "File/export" and select the desired images
- Select a predefined export mode for exporting.
- Confirm the export by pressing "OK".

Archiving module



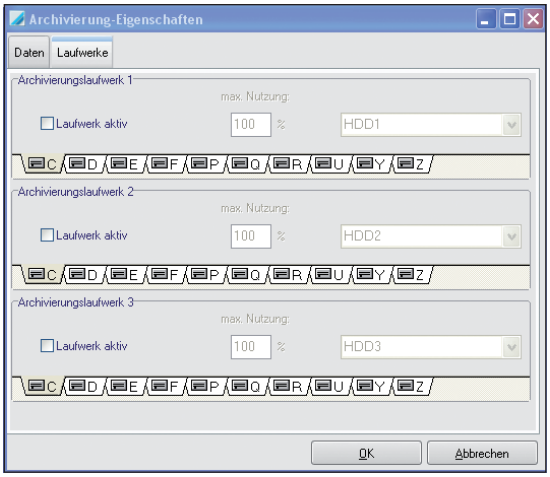
Archiving Parameters:

- Blue time segment: Images are always selected for archiving.
- Green time segment: Patients and the criteria with at least n images are selected for archiving.
- Red time segment: Images are not selected for archiving.

- Mark checkbox "Archiving activated on this station", then images are archived on this station.

For safety reasons, archiving on one station only is recommended! Transferring back is possible on all stations.

- Mark checkbox Archive video images" & "Archive X-ray images". The images are taken in the long-term archive.

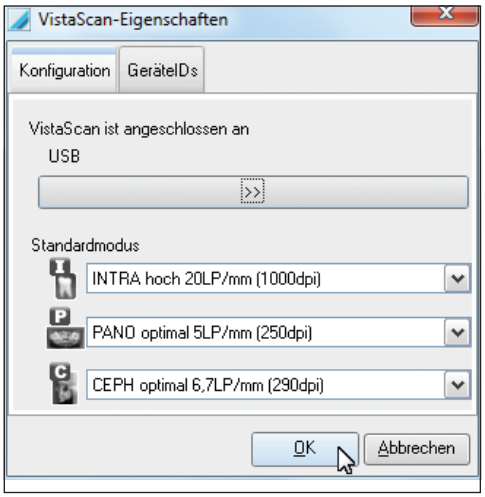


- Activate the drive to make the settings.

Example for drive configuration:

- Archiving drive 1: Is the write-/read-drive for archiving and reading back the currently not yet closed medium. In a network, this drive must be installed on a server computer, which can be reached for all DBSWIN systems.
- Archiving drive 2 & 3: This can be a global CD-ROM drive on the server, CD-ROM drive on the server, a global CD-Jukebox or a local CD-ROM drive for reading copies of connected archive media. The implementation of a local CD-ROM drive enables quick access to long-term archived image data at any time (without an expensive Jukebox system)

VistaScan module



- The set USB- or LPT-interface is shown.
- The standard scan modes for Intra-, Pano and CEPH-X-ray images are predefined here

Use the menu [>>] to start VistaScanConfig.

- Check the initialisation of VistaScan under [Appliance IDs] indicated by a successful entry of the serial number.

Foot Pedal Module:



Type:

Dürr Dental: Here, the functions of the foot pedal can be tested.

Kavo (Port:ErgoCom: Type KaVoERGOCom Multibox and COMx connection)

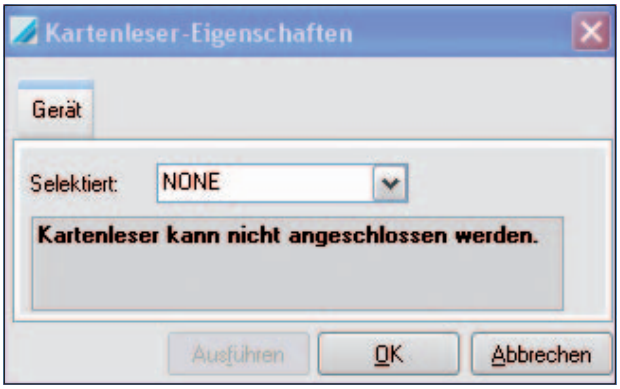
Planmeca (Select type Planmeca -COMx -connection)

- It does not matter which type is selected for the SironaSiucom interface. Import the DBSWIN foot pedal allocation under (dbswin\bin\dbssiucom.msd or .ind).

Function Buttons:

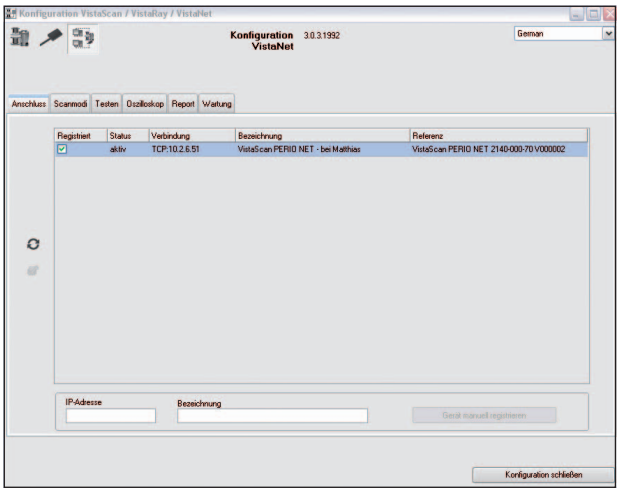
Take:	Take picture and put in the recording strip (video module)
Still/Live:	Switch: Image/Live image
Full:	Switch: Full frame/Normal
Activate:	Activation of an image in video module
Print:	Printing

Card reader module:

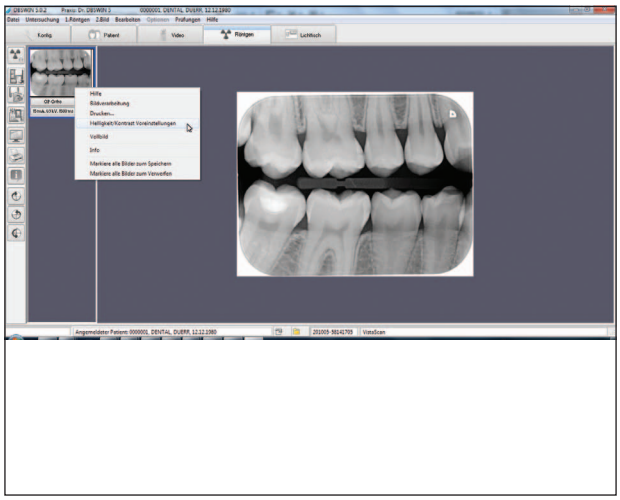


- Assign the respective card reader interface.
- Interfaces that have been assigned in the foot pedal module are no longer available for selection, even if no foot pedal is active.

Vista Net module:



- Click on "Update" under the "Connection" tab. All connected VistaScan Perio Net are found automatically.
- Select the desired device under "Registered" and click on "Close configuration". (See page 47 as well)

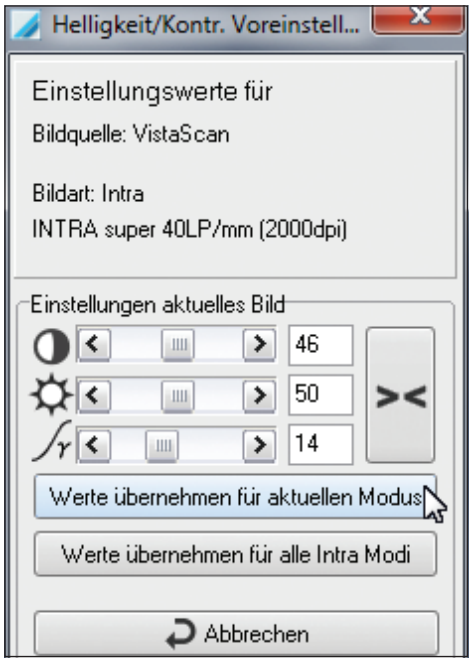


10.2 DBSWIN image contrast values

Set brightness and contrast values for new images in advance

By means of these settings, brightness, contrast and gamma parameters are changed directly in the current image. These settings can then be saved as default values for all newly recorded images of the current mode or for all modes of the same type (Intra, Pano or Ceph).

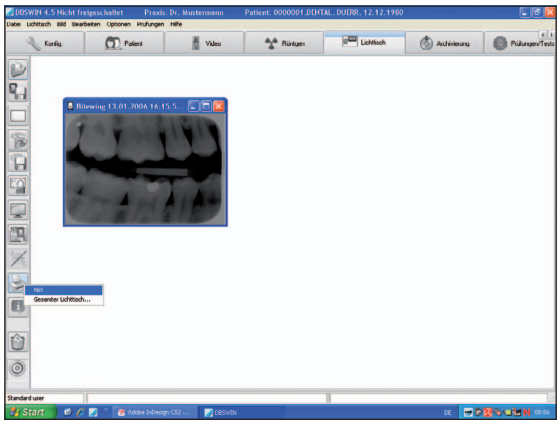
- Importing a recording with VistaScan or VistaRay in DBSWIN.
- As soon as the recording is displayed in DBSWIN, close the displayed tool box.
- Right-click on the X-ray image.
- Click on "Brightness/contrast defaults" in the selection window.
- Set the desired brightness, contrast and gamma values.
- Save the settings.

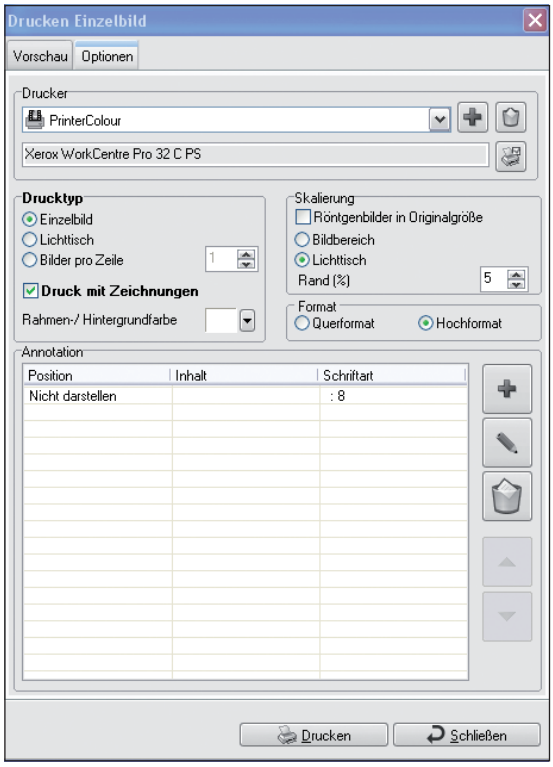


1 .Set brightness, contrast and gamma

2 . Reset the settings

3 .Save the settings for the current mode or for all modes of the same type (Intra, Pano or Ceph)





11. Important program functions

11.1 Print images

Select print module

- Click on the button "Print active image".

With an individual image on the light table, select the selection "Image" and with multiple images on the light table, select "Entire light table".

Create new printer profile

- Click the "Create new printer profile" button.
- Click into the text field and name the new profile.
- Define all settings like as described from 2.3.

Select printer profile

Click on the pull-down button and select the desired profile.

Select a printer

Click on the printer button and select the desired printer.

Select print type

Single image:

The selected image is printed

Light table:
All images on the light table are printed.

Images per line:
When activating the button "Images per line", the images are sorted for printing in lines and columns.

Print with drawing:
If the "Print with overlay" checkbox is activated, drawings that were added with the help of the toolbox are also printed.

Frame / Background colour:
Choose any colour for the image background.

Scaling

X-ray images in original size:
If "X-ray images in original size" is activated, the images will be printed in their original size.

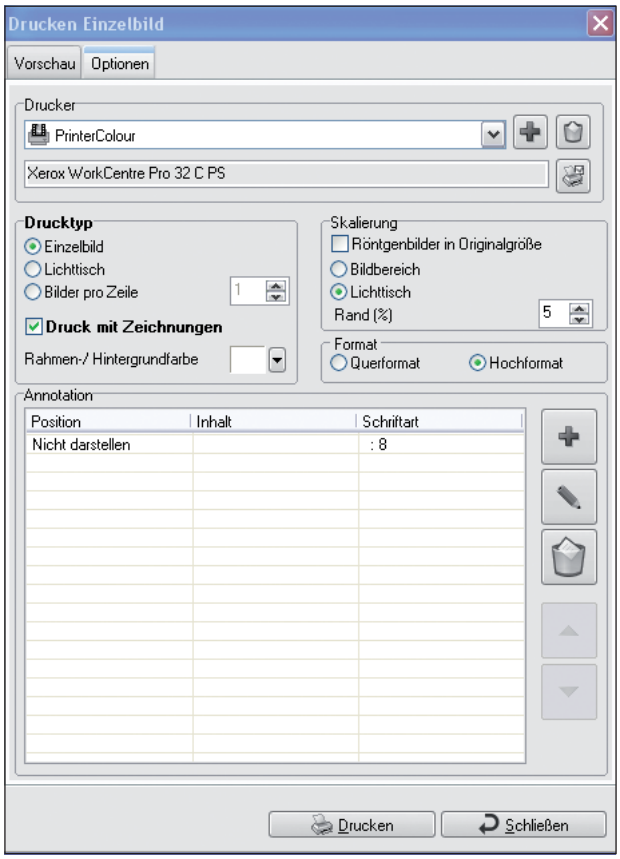
Light table:
The "Light table" button scales the print of the complete light table to one whole page.

Image only:

If the "Image only" checkbox is active, the smallest possible space around all images is determined and the print is scaled to one page.

Border (%):

The "Border (%)" setting defines the margin (in relation to the image size) around an image. This affects the printout of multiple images because the distance between images is determined this way.



Format

Select portrait or landscape format.

Annotation

In this selection field, the images can be supplemented with information automatically during the printing process, e.g. with Patient name, Birth-date, Index number, X-ray parameter, etc.

- Click the "New annotation" button.
- Under "Position“, select where the information should appear.
- Under "Character set“ select the font, font style and font size.
- In the pull-down menu of the "Content" field select the information that should be supplemented. Multiple designations are possible.
- Confirm with "OK".

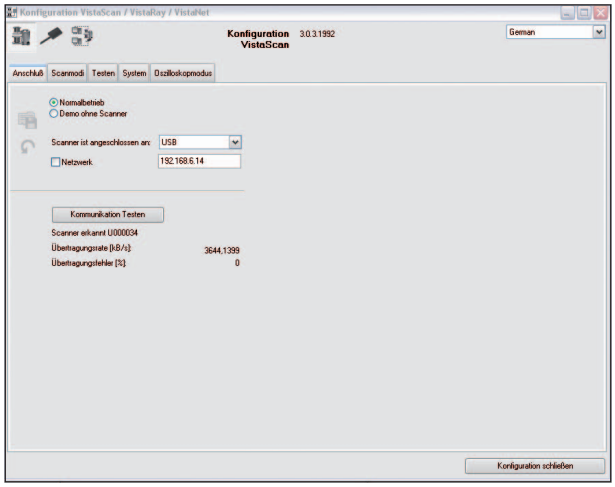
Preview

Select the "Preview" tab to check the settings.

11.2 Series recording assistant

12. VistaConfig - VistaScan Plus & VistaScan Perio (USB)

12.1 Starting VistaConfig



- Switch on VistaScan Plus/VistaScan Perio.
- Click on [Start], [Program Files], [VistaScan] and [VistaScanConfig].

12.2 Configuration

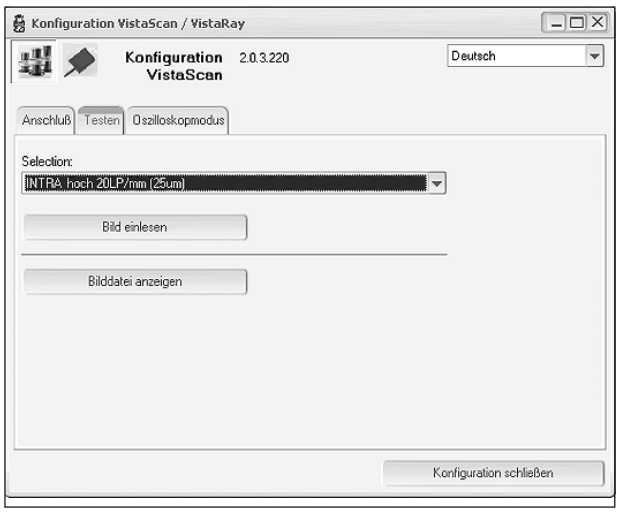
Dialogue field [Connections]

- If necessary change the port in the field [VistaScan is connected to ...] and enter the correct port, confirm with "save".
- Click on [Test communication]. The test is successful if, after a couple of seconds, the green LED on the VistaScan lights and the serial number appears in the dialogue field [Connection].

Transmission rate:
USB 1.1 approx. 1000 kb/s
USB 2.0 approx. 3400 kb/s

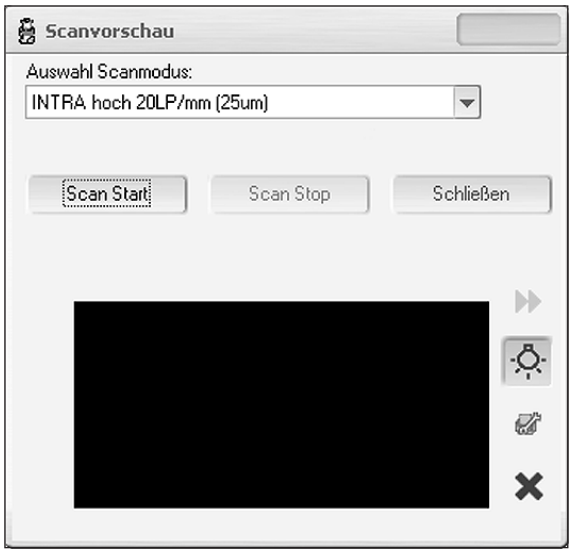
VistaScan must be connected and switched on.

VistaScan Combi Net
If the VistaScan is operated with the VistaScan Net box in a network, the checkmark must be activated in the "Network" field and the respective IP address must be entered in the right-hand field. Click "Save" to store the settings. Transmission rate approximately 500kB/s

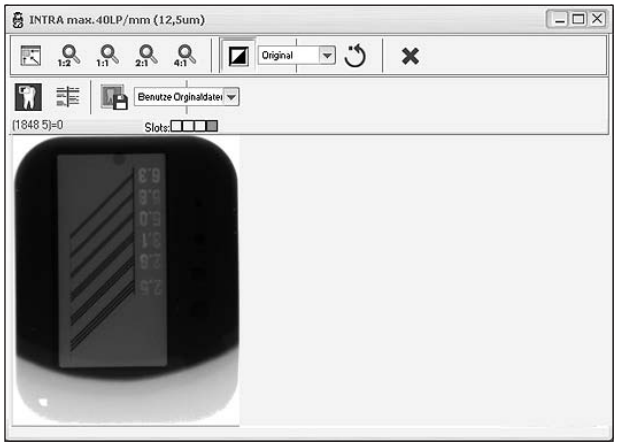


Dialogue field "Test"

- Select the scan mode in field [Selection].



- Click on [Scan image]. VistaScan is active now. The scan preview is opened, the status LEDs illuminate in green.
- Read an image plate exposed with X-ray radiation.

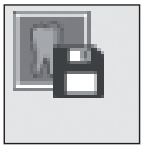


- The test has been successfully completed when the X-ray exposure has been transmitted to the PC.
- Close the window.
- Save the X-ray exposure for documentation purposes.

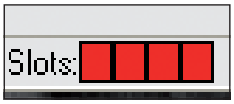
To delete images in the demo mode (VistaScan not connected) press keys Ctrl+Shift.



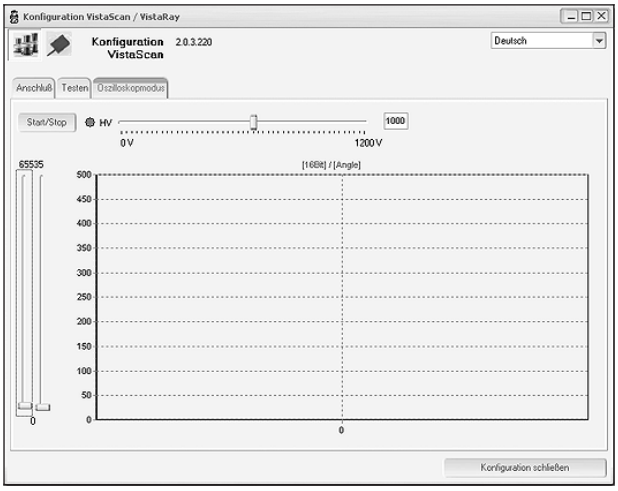
- Selection of the image status to be saved.



- Save image.



- Slot in which the image was read.



Dialogue field [Oscilloscope]

The oscilloscope mode allows to check the current ambient light conditions and the amount of stray light into the VistaScan.

High voltage (HV) for the photomultiplier (PMT) can be set with the upper sliding bar.
The measurements are started using Start/Stop.
The two sliding bars on the left-hand side allow the desired display parameters to be selected. The scale goes from 0-65535 ADC counts.

- Check set-up conditions (light level <1000 lux).
- Set the display range (left sliding bar) to 500 and the amplification HV (upper sliding bar) to:

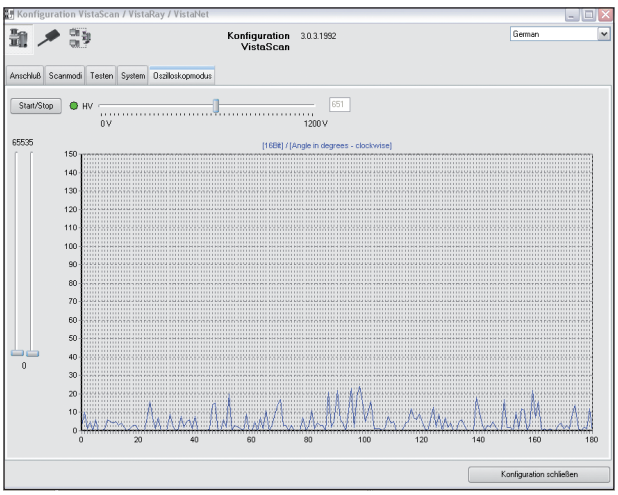
VistaScan Plus 1000
VistaScan Perio 650.

- Press [Start].

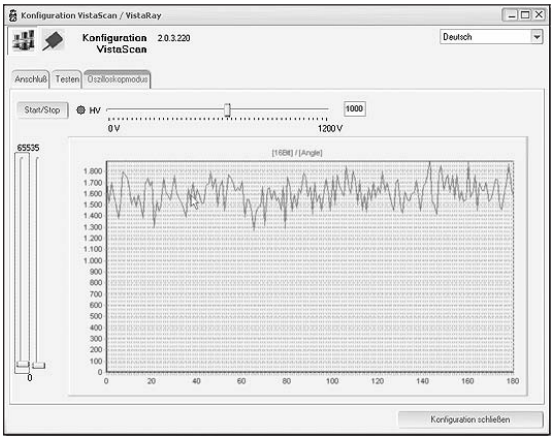
The test is successful, if the measurement value does not exceed the value 800 with Perio and 300 with VistaScan Combi.
Here, ensure that the light exposure can differ greatly at different times of the day.

12.3 Optimisation of Threshold

If for some reason the threshold level set cannot be used, a suitable value can be set up in the oscilloscope mode. The high voltage level (HV) will be set to the value used for the desired parameter settings. A threshold level within the peak values is selected. A buffer zone should be calculated in additional. Individual short peaks can also be above the threshold level. In example 1 (low light level) a threshold setting of 250 is acceptable.



1. Example: Recording with 650 HV and low light level (Perio)

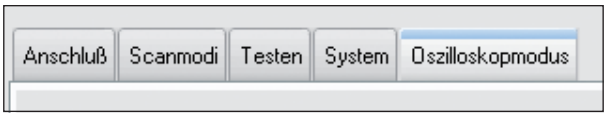


2. Example: Recording with 1000 HV and high light level (Combi)

Rule of thumb

The threshold level should always be less than 1% of the end value (65535 ADC counts), i.e. less than 650 ADC counts. A value less than 0.5% of the end value, i.e. 300 ADC counts, is even better.
A lower threshold level can be chosen in proportion to the amount of ambient light present.
The threshold level is more critical for Pano parameter settings than for intraoral or Ceph modes.
It is always more beneficial to reduce the ambient light than to increase the threshold value if there are problems.

Threshold level	Advantage	Disadvantages
High	• Low sensitivity to ambient light	• in some cases details in areas with higher X-ray absorption are not presented (e.g. fillings)
Low	• Details in areas with higher X-ray absorption are presented (e.g. fillings)	• in some cases problems of reading images where ambient light is high.



Activation of the extended configuration in VistaScan Config:

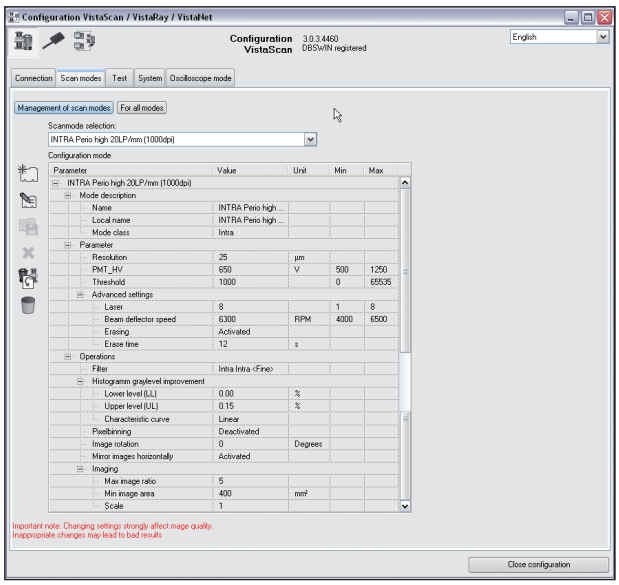
The extended VistaScan configuration serves for eliminating faults and maintenance and for the setting and calibrating VistaScan.

• Click on the F2 key to open the extended VistaScan configuration

After the activation, two additional dialogue fields can be seen in the icon bar.

12.4 Scanning modes

Name	System name for the scan mode. Must not be changed.
Local name	Displayed mode name in program.
Mode class	Format definition (Intra, Pano, Ceph).
Unit	Define a unit of measurement for the resolution.
Resolution	Resolution of scanning mode in µm.
PMT_HV	High voltage for PMT in volts, the value is a measurement of the amplification and therefore for the sensitivity of the system. The value will depend on the X-ray dose of the image plate. The relationship between the amplification and the HV value is not linear.
Threshold level	Lowest pixel value, all values below this one are treated as non-relevant information. Important for the recognition of exposures.
Laser	Standard laser power. Do not change!!
Beam baffle speed	Nominal number of revolutions of the beam deflection motor: VistaScan Plus 4000 rpm, VistaScan Perio 6500 rpm - Do not change!!
Erasure	Switch erasure unit on an off
Erasure time	Set the erasure time
Filter	Predefined filter in this scanning mode.
Lower range (LL)	Grey scale section in dark range in %.
Upper range (UL)	Grey scale section in light range in %.
Evaluation characteristic curve	Type of grey value function.
Sampling intervals (Pixel binning)	Activation of the pixel binning. Images are scanned with double resolution but are then stored with normal resolution. (high image quality with the same file size.)
Image rotation	Rotating the image.
Horizontal mirror-image	Images are flipped horizontally.
Maximum image aspect ratio	The maximum ratio length to width.
Minimum image area	Smallest possible image in mm^2. Smaller images confuse the scanner.
Scale	Projection factor of the images.



Dialogue field "Scanning mode"

This tool allows changing predefined scan modes or defining additional parameter sets.

Under the **"Parameter“** tab, the following functions can be seen:

Create a new scan mode.

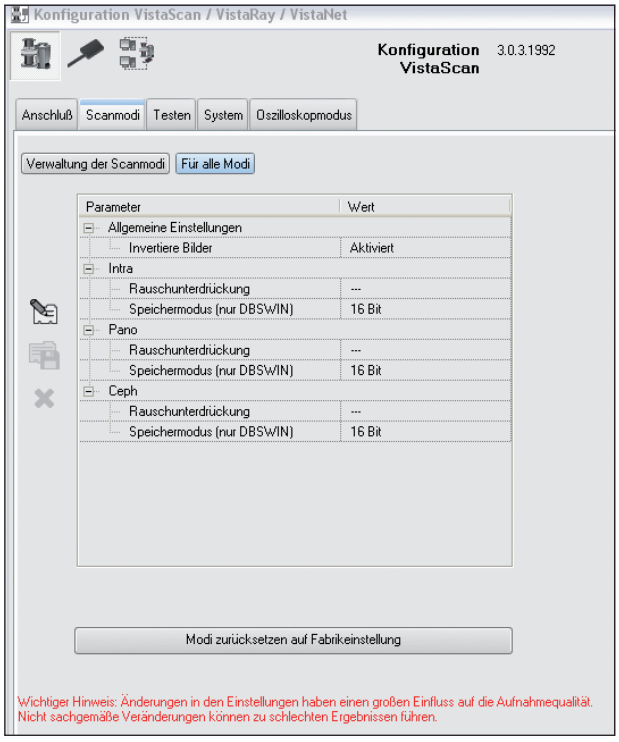
Edit the scan mode from the selection list.

Save the scan mode.

Discard changes.

Copy the scan mode.

Delete scan mode.

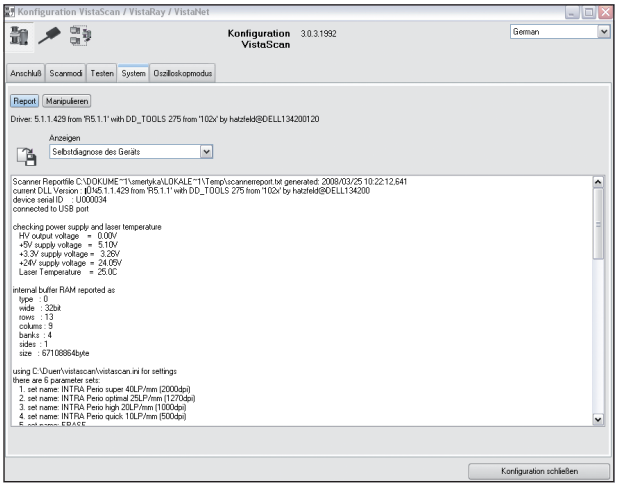


For all modes:

The **"All modes“** tab can be used:

- Inverted images. All images are shown inverted, whereby X-ray images are scanned in "negative" format.
- Switch on noise suppression.
- Save mode, can be switched between 8 and 16 bits for third-party programs here.
- Use the field "Factory Settings“ to return to default factory values.

After resetting the factory settings, it may be necessary to carry out a (partial) acceptance test.



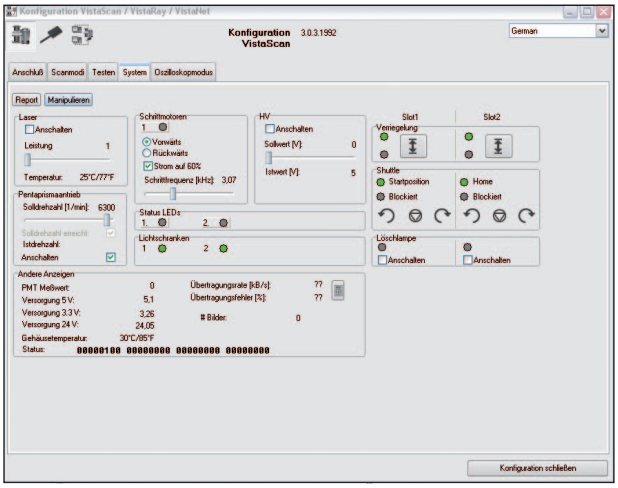
"System check" dialogue

"Report"

Using the **"Report"** tab, it is possible to:

- the menu option "Create Report File" allows one to create and read settings for parameters and fault reports.
- the menu option "Display" allows previously created and saved Report Files to be called up and displayed.

The "Save key" can be used to store the file and send it as an e-mail for further troubleshooting.



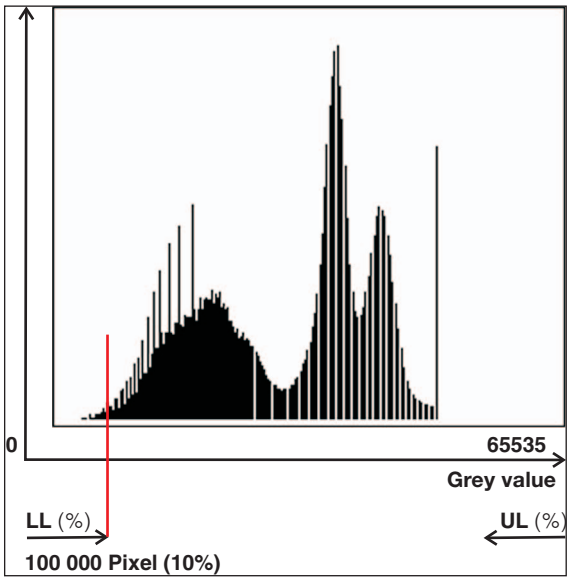
"Manipulation"

Using the **"Manipulate"** tab, it is possible to:

- select the elements of VistaScan, e.g. laser module, step motor, status LEDs and light barrier individually and check their function.

Only carry out a change of direction of the stepping motor when the unit is at a standstill. Any changes will be cancelled out when the menu is left.

Number



Only for compatible client programs (DBSWIN or VistaScanEasy)

Histogram grey scale value improvement:

Upper and lower limits of the grey scale value in percent of the total grey scale value, which are to be cut off.

Example: The total number of pixels corresponds to the total grey scale value = 1 000 000

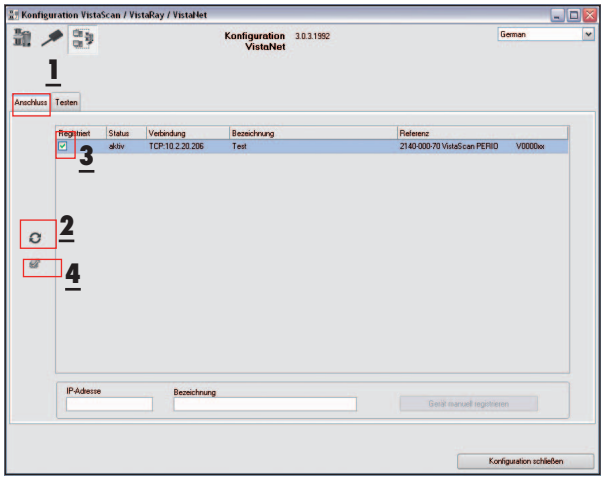
Lower Level (LL) = 10% corresponds to a grey scale to be cut off of
100 000 pixels

1 000 000 x 0.1 = 100 000 pixels

The example can also be applied using the Upper Level (UL).
In practical use, the values for LL and UL are in the range up to approx. 2.5 %.

When VistaScan is operated together with VistaScan Easy, the selected grey scale range is erased. The original values can be recovered using DBSWIN.

13. VistaConfig for VistaScan Perio Net and VistaScan Mini



13.1 Starting VistaConfig

- Start "VistaNetConfig“ (Start/Programs/Dürr Dental/VistaConfig/VistaNetConfig).

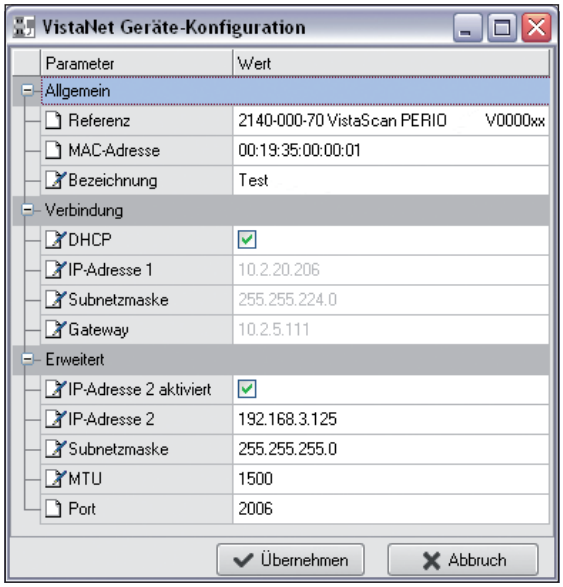
13.2 Configuration

Connect menu

- Click „Update“.
- Register the attached equipment by activating the check box.

Several devices can also be registered with several VistaScan Perio Nets attached.

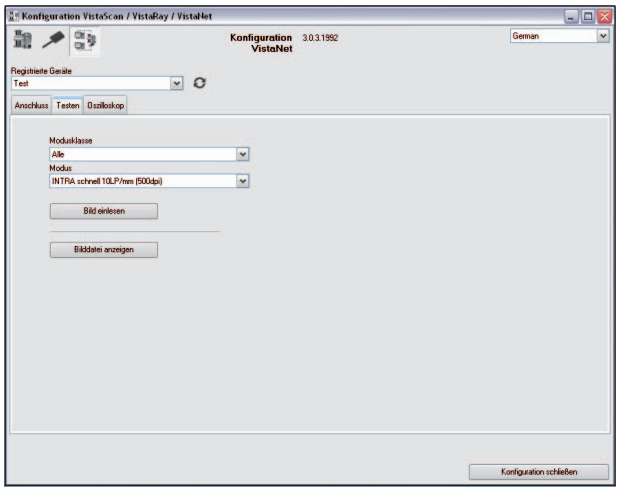
- Click „Bearbeiten“ (Edit).



The "VistaNet appliance configuration“ will open.

The device name can be changed, an IP address entered manually and information queried under „VistaNet device configuration“.
Standard setting: DHCP is activated, an IP address is automatically selected if a DHCP-Server is reachable in the network.

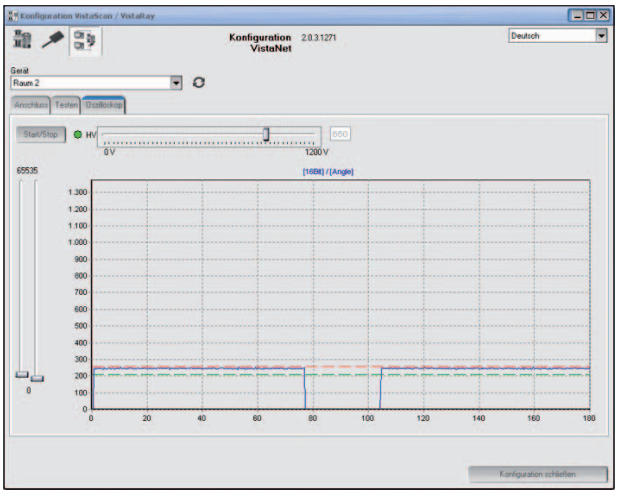
- DHCP must be deactivated.
- Enter IP address, subnet mask and gateway manually.
- Use „Accept“ to store changes.



Test menu

To test whether the scanner is connected properly, read an X-ray under the "Test" tab.

- Select appliance.
- Choose the class of mode required.
- Choose mode.
- Click option „Scan image“.
- Scan image plate.



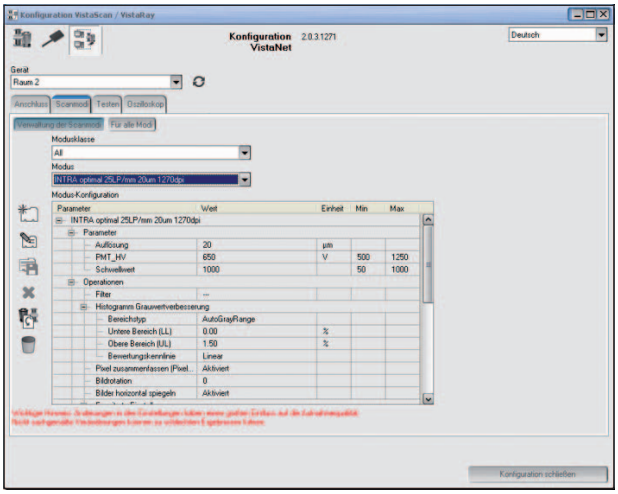
Oscilloscope option

The oscilloscope mode measures the amount of light falling on the appliance.

- Select appliance.
- Adjust the sliding controls for the HV value to 650.
- Click on the „Start/Stop“ button..
- Pull the left sliding control downwards until all lines (three in total) are displayed.

The blue line shows the incidental light, the red line shows the highest value and the green line shows the average value.

The test is successful if the measured value does not exceed a value of 450.



Additional functions

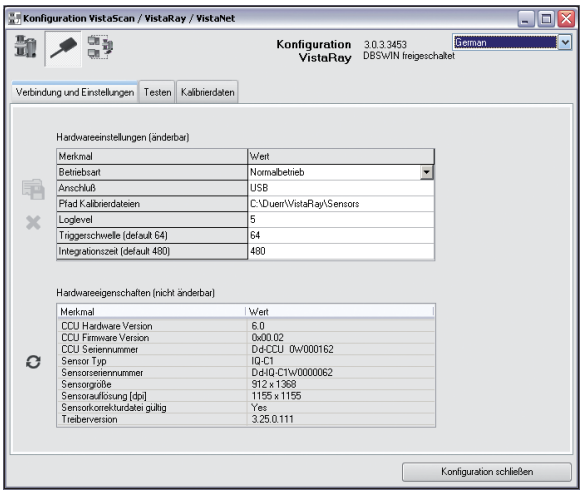
- Press key „F2“.

13.3 Scanning modes

- Select appliance.
- Choose the class of mode required.
- Choose mode.
- Clicking the option „Bearbeiten“ allows the individual modes to be changed.

The VistaScan Perio Net can be adapted to the existing X-ray systems with the various scanning modes.

14. VistaConfig for VistaRay



14.1 Starting VistaConfig

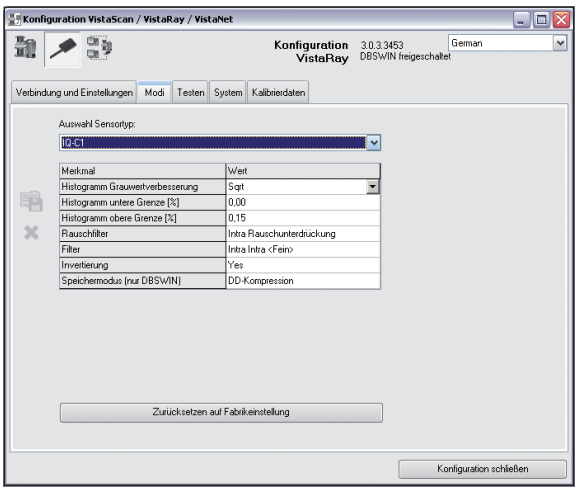
- Start "VistaRayConfig“ (Start/Programs/Dürr Dental/VistaConfig/VistaRayConfig).

14.2 Configuration

Connections & Settings Tab

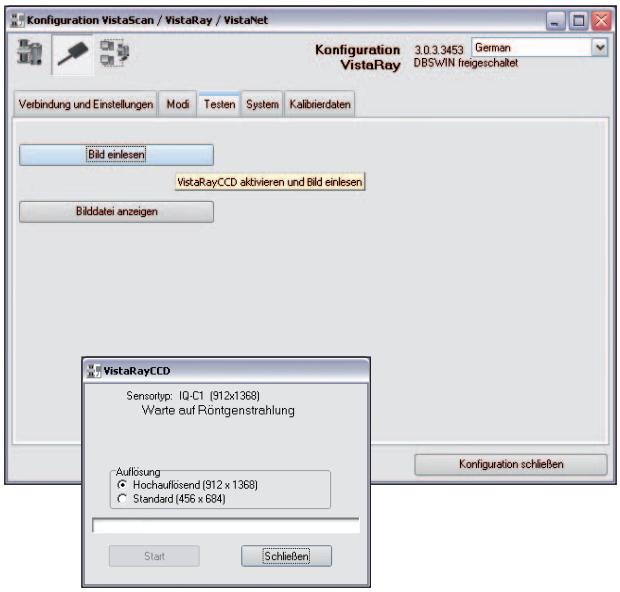
- Operating mode: Here, the sensor can be set in demo mode.
- Connection: Here, the type of connection can be set for the VistaRay.
- Port address: Shows the port address with connection type LPT.
- Calibration file path: Shows the storage location path for the calibration file.
- Loglevel: The Log Level can be set here. A higher log level logs more information, which in turn makes the log file much larger and harder to understand.
- Trigger threshold: Here, the trigger threshold of the sensor is set. On older X-ray appliances (AC), a higher trigger threshold can improve the image quality. The value must be able to be divided by 8.
- Integration time: Indicates the time that the sensors receives X-rays in milliseconds. This value should only be changed after consultation with DÜRR Service.

Hardware characteristics, here, information is shown on the connected system.



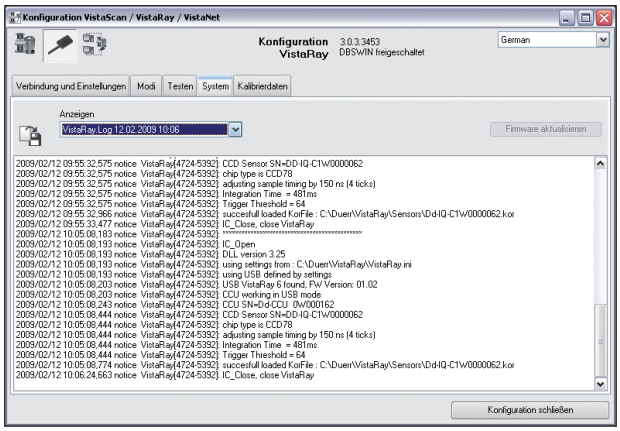
14.3 Modes

Property	Value
Hist. grey value improvement	Type of grey value function for display.
Hist. lower limit (%)	Grey scale section in dark range in %.
Hist. upper limit (%)	Grey scale section in light range in %.
Noise filter	Adjusts the noise filter.
Filter	Predefined diagnostics filter in this CCD mode.
Inversion	Grey value inversion for images.
Save mode (only DBSWIN)	8 Bit, 16 Bit or DD compression.



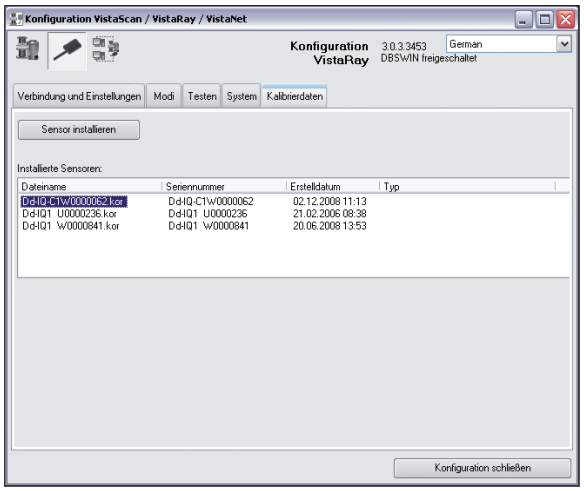
Test menu

- Click on "Scan image".
- Select resolution.
- Expose CCD sensor respectively with X-ray radiation.
- The test has been successfully completed, if the image is read and displayed correctly.
- Close the window.
- Save the X-ray exposure for documentation purposes.



Tab System

- Here, you can read and export VistaRay Log files and configuration files.



Calibration Data Tab

- Which connected sensors that calibration data is installed is displayed here.
- The calibration file for a new sensor can be installed via the "Install sensor“ button.

15. VistaEasy View

15.1 General information

Intended purpose

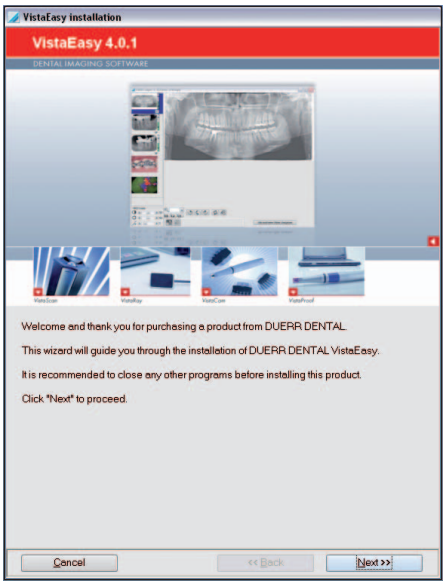
Recording and transfer of images that are created with various systems VistaRay 5 and VistaRay 6 as well as VistaScan by Dürr Dental. If necessary, these images can be examined and edited by the user via the VistaEasyView image screen interface prior to transfer to the third-party application. All changes are burned into the image and transferred to the
third-party application which has requested the recording(s) via an order. The third-party application is responsible for further administration and processing of the transferred image.
The transfer to this third-party application is either done using the standard TWAIN- or the proprietary VistaEasy interface.

The external program must include the changes of the VistaEasy interface specification, so that the safe image transfer is guaranteed.

Data backup

We recommend a complete data backup of the software already installed on the
computer before installing the software. A regular system backup is vital!
You can request instructions on how to proceed from your system administrator.





15.2 Installation

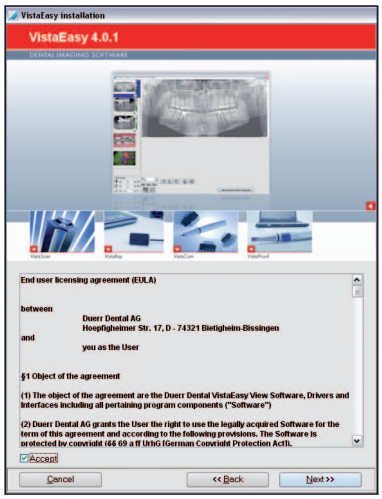
VistaEasy can be installed in parallel from DBSWIN Version 4.5.2 upwards. We recommend a complete data backup of the folder C:\Duerr before installing the software.

VistaEasyView Ver. 4.0.1 is NOT a component of the DBSWIN 4.5.2 or 4.5.3 CDROM.

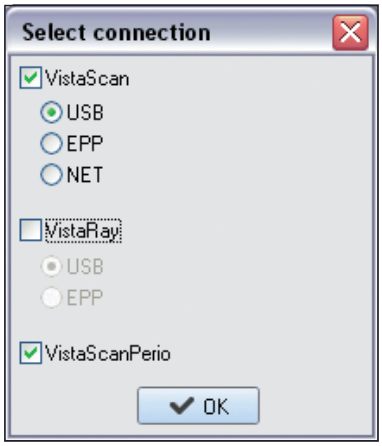
Start the file "VSSetup.exe“ from the storage medium (e.g. CD- / DVD-ROM, FTP server, ...) or download and start. (in sub-folder ..\Vscan)

Select desired language and confirm with "OK“.

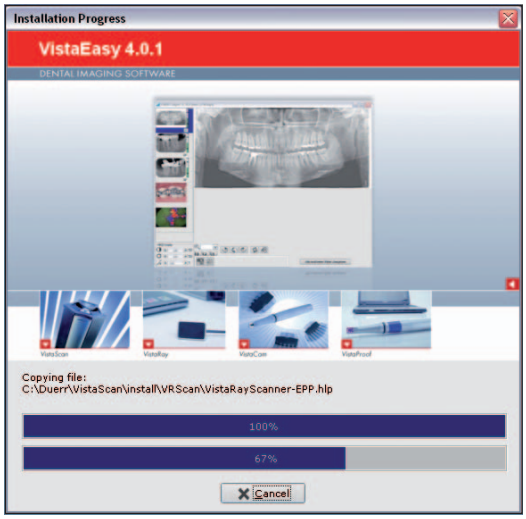
Read the installation welcome text and confirm with "Next".



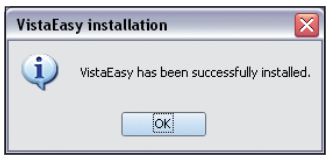
Read the End User Licensing Agreement (EULA) and check the "Accept" box if you accept the conditions of the contract agreement.
Confirm with "Next".

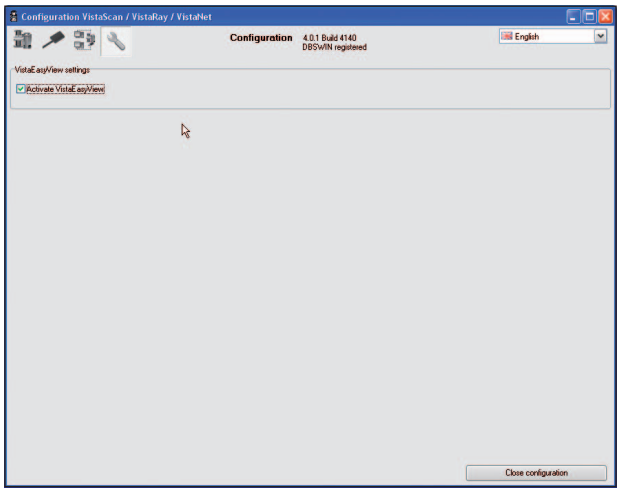


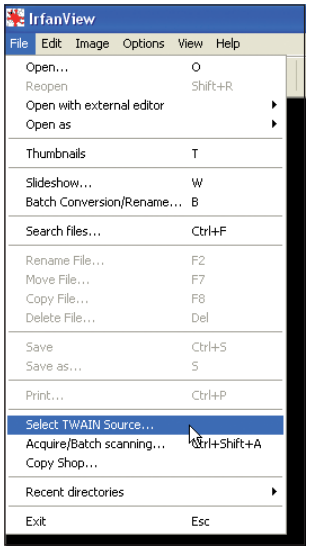
Select the desired hardware connections.
Confirm with "OK".

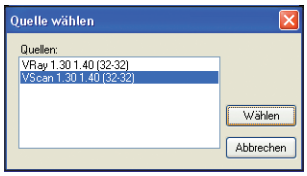


VistaEasy will be installed. Dialogue "VistaEasy was installed successfully!“ Confirm with "OK". A dialogue appears, in which the query for whether the computer should be restarted or not appears.
Confirm the dialogue with "Yes".









15.3 Configuration

Activate VistaEasyView:

Before the image display interface VistaEasyView can be used, it must be activated.
If VistaEasyView is not activated as follows, the images that are imported are directly transferred to the third-party application (without the ability to view or edit the images in VistaEasyView).
Depending on the device that is installed and the respective driver "VistaScanConfig", "VistaRayConfig" or "VistaNetConfig", start via "Start/All programs/Duerr Dental/VistaConfig".
Click on the "Tool" button. Set a checkmark by "Activate VistaEasyView".
Close the window with "Close configuration". If the window is closed with "x", the changes will not be saved.

Using the TWAIN interface (source) in the third-party application

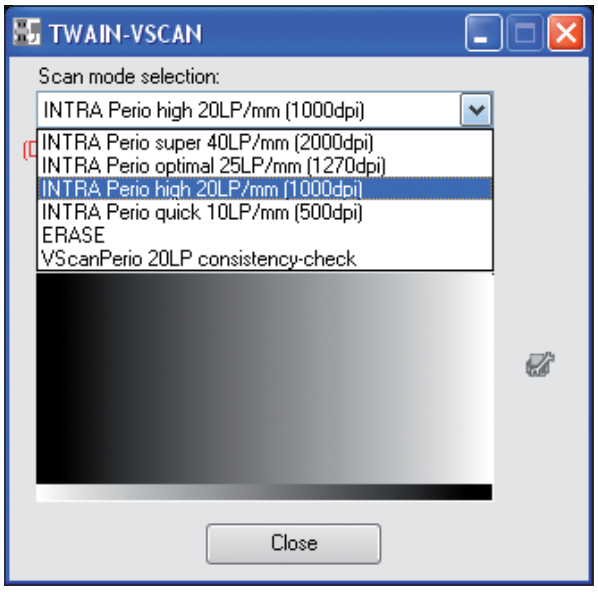
Depending on the third-party application that is used, a TWAIN source can be predefined or the TWAIN source must be selected directly while reading.

Predefining the TWAIN source

Device	TWAIN source
VistaScan / VistaScan Plus / VistaScan Perio	VScan 1.40
VistaRay	VRay 1.40
VistaNet and VistaScan Perio Net	TWAIN source is displayed with the individual name of the scanner and the IP address, to which the scanner is connected.

Using the VistaEasy interface in the third-party application

The VistaEasy interface is supported based on the utilised third-party application. Ask the manufacturer of the third-party application or Dürr Dental whether the third-party application used supports the VistaEasy interface. If this is the case, the interface must be activated via a defined button. This is detailed in the third-party application manual.



15.4 Application

The application listed below is an example! Whether and how the TWAIN- or VistaEasy-interface is used in the utilised third-party application is to be determined by reading the manual for the third-party application..

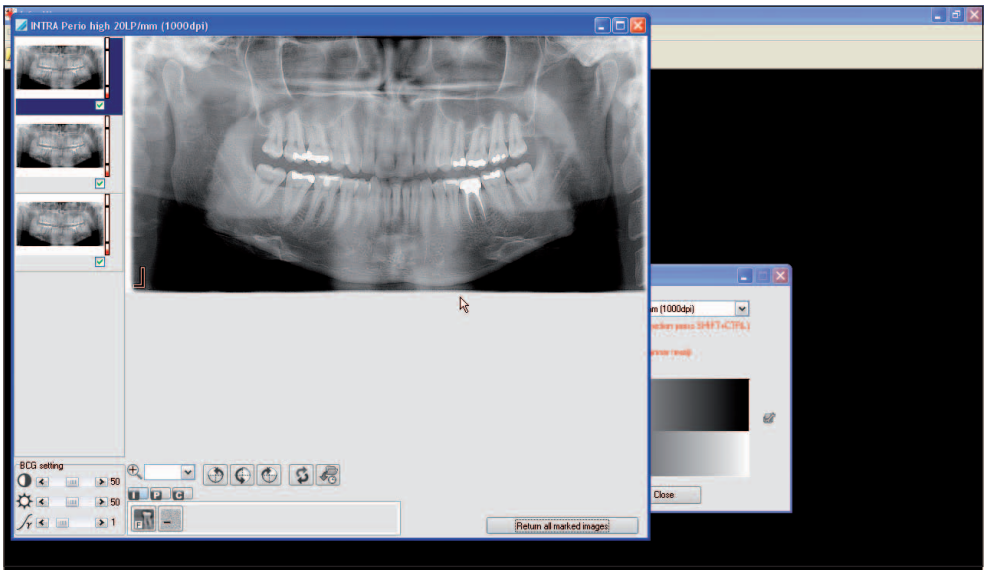
Start the third-party application.
If there is no TWAIN source predefined in the third-party application, the TWAIN source must be selected directly each time an import is performed. See chapter "Start -> Configuration".

TWAIN sources and associated appliance

Device	TWAIN source
VistaScan / VistaScan Plus / VistaScan Perio	VScan 1.40
VistaRay	VRay 1.40
VistaNet and VistaScan Perio Net	TWAIN source is displayed with the individual name of the scanner and the IP address, to which the scanner is connected.

The scan preview window is opened after the TWAIN source selection. The VistaEasyView window only opens if VistaEasyView is activated in the configuration.

Select the scanning mode and read the X-ray exposure.



The selected X-ray image is displayed large in the main window. All images are shown at the same time in the image preview bar. By clicking on an image in the image preview bar, the image can be displayed in large form in the main window. The equivalent dosage value is also displayed in the image preview bar on the right, next to the individual images. This value serves as a standard for the optimum settings of the dosage parameters. If the dosage parameters are set to the correct values, this is indicated by a green bar and if not, this is indicated by a red bar. There is a lower and upper critical limit here.

Procedure if the bar is red:

Bar red and low	Increase X-ray dosage or amplification of recording system
Bar red and high	Decrease X-ray dosage or amplification of recording system

Settings

Contrast
The contrast of the images can be adapted using the slide control

Brightness
The brightness of the images can be adapted using the slide control

Gamma value
The gamma values can be adapted using the slide control

Zoom in / Zoom out
A zoom factor can be selected through the pull-down menu.

Rotate image
The image can be turned by 90° to the left or right or by 180°.

Undo: Last change
Restores to the step made before the last change.

Restore original image
Loads the original status of the image.

Filter functions
In order to support diagnosis different filters can be applied.

15.5 Auxiliary Functions

Auxiliary functions can be shows with the "F2" key.

Mirror image
The image can be flipped horizontally and vertically.
Histogram equalisation
The histogram of grey values can be adapted with the histogram equalisation. The calculation type of the evaluation curve (original, linear, sqrt,
log, quad, S-Curve) can be selected for this. The lower and upper percentage limit of the grey values can also be truncated by 10%. This hides the grey values in this range.
Save mode configuration
The settings made on the HKG values, the filter and the histogram equalisation can be saved with the "Save mode configuration“ button.

The settings that have been made are saved directly into the mode. The saved changes are then always used if this mode is used.

Image transfer from VistaEasy to third-party software

After revising the X-ray images, you can select which images should be sent to the third-party application.

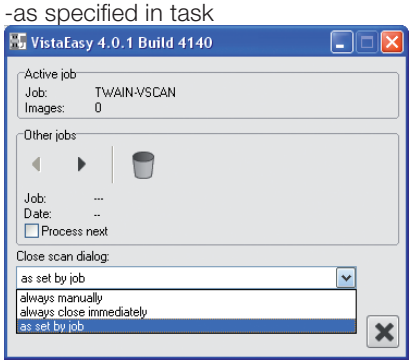
The settings made to the HKG values, the utilised filters, etc. are saved in the image and are therefore also passed on to the third-party application. These changes can no longer be undone in the third-party application.

This requires marking the desired images in the image preview bar and clicking on "Transfer all marked images“. The marked images are sent, as edited and shown in VistaEasy, to the third-party application via the utilised interface (VistaEasy-TWAIN or VistaEasy). VistaEasy cannot be closed if there are still images in the image preview bar. No images can be deleted in VistaEasy either.

The transferred images must be saved in the third-party application.
If the images are not saved, the data is lost and cannot be recovered!

Task Management

VistaEasy creates an icon in the task bar next to the Windows clock. The icon shows a scanner and a sensor. A double-click on this icon displays a status window, which shows information on the currently active task. A menu point for ending VistaEasy appears upon right-clicking on this icon, as soon as ending is possible. The status window shows the active task, existing tasks can be paged through and deleted to the recycle bin. A task can be selected so that it will be processed next. Closing the scan dialogue window (after ending the scanning process) can be defined via the selection list as follows:
-always manually
-always close immediately
-as specified in task

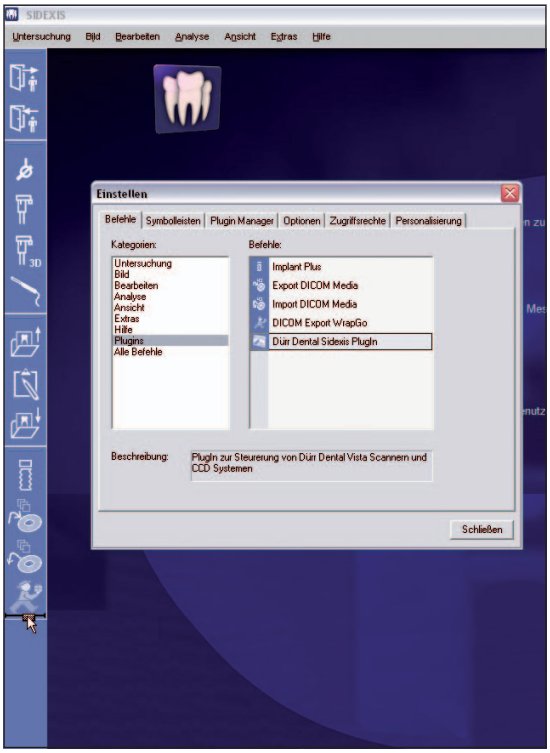


Log management

Output of information, warnings and error displays. VistaEasy creates an icon for this. In the task bar next to the Windows clock. After double-clicking, a Window with the Log- log and error messages appears. The contents of the window can also be saved as a file.

Plug-Ins
16. Sidexis Plug-In





The plug-in was developed to operate a Dürr VistaScan with SIDEXIS.

16.1 Installation

The installation of the SIDEXIS Plug-In is only to be performed by a technician trained and certified by DÜRR DENTAL or our customer service.

Installation prerequisites

The following components must exist for installing the SIDEXIS Plug-In:

- SIDEXIS software as of version XG 1.5
- Dürr Dental VistaScan / VistaScan Perio with corresponding driver
- DBSWIN CD-ROM, version 4.5 or higher (included in the delivery contents of the scanner)

Installing the Components

- Install SIDEXIS.
- Install the drivers for the VistaScan / VistaScan Perio.

For the installation of SIDEXIS and the drivers, please note the attached manufacturer's installation instructions.

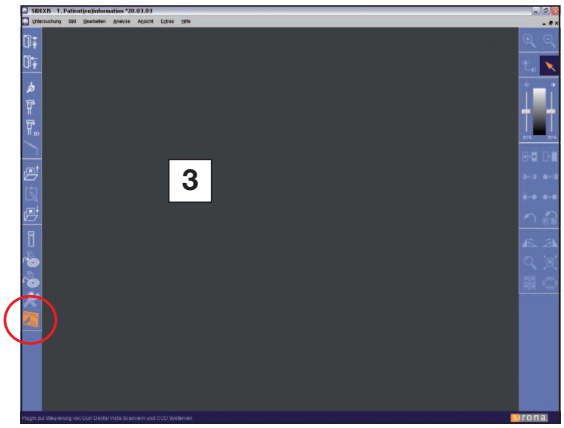
- Put the DBSWIN CD-ROM into the CD-ROM drive. The start window opens automatically. If the CD-ROM does not start automatically, double-click on the DBSWIN icon on the CD-ROM drive under "My Computer".
- Select the desired language.
- Select the "Drivers" tab.
- Under "PlugIns", select "Install Sidexis PlugIn".
- Confirm message with "OK".

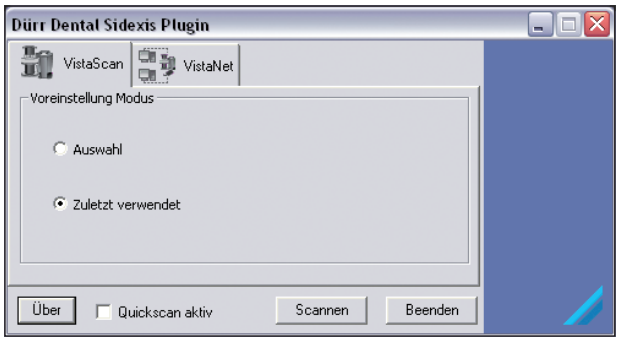
If support does not exist with Windows Vista, an error message can appear. This error message has no influence of the functionality and must be confirmed to continue with the installation.

- Click „Continue“ .
- Select the installation path.

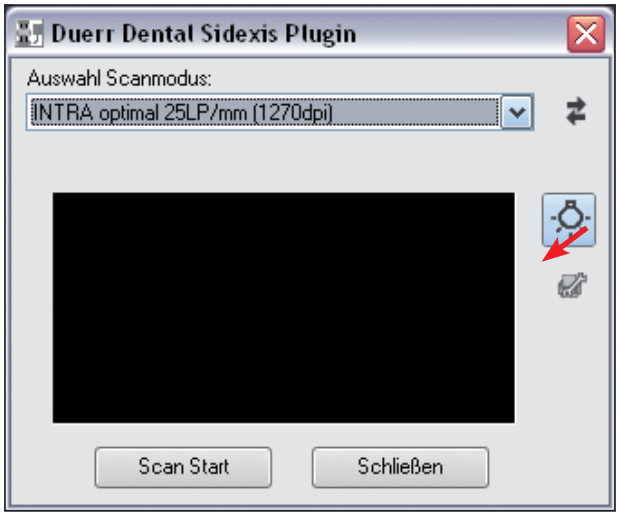
The default path is C:\Duerr\SidexisPlugIn\. This path is recommended.

- Click „Continue“ .
- End the installation with "Finish".





4



5

16.2 Configuration

If the plug-in is not to be shown as default in SIDEXIS, the following steps are to be performed:

- Start SIDEXIS.
- Click "View“ and select "Adjust“.
- From "Categories“ select „Plugins“.
- Click on "DÜRR DENTAL Sidexis PlugIn" under "Commands" and Drag&Drop in the left-hand column. The plug-in is now permanently displayed in the column.

16.3 Application

- Start SIDEXIS.
- Select a patient in SIDEXIS.
- Start the plugin.
- Select the device to use for scanning on the tab.
- Select "Selection“ or "Last used“.

Selection:

If the scanning mode has to be changed frequently, "Selection" is recommended. This makes it possible to switch the scanning mode eith each start.

Last used:

If scanning is mainly done using the same scanning mode, selecting the "Last used" option is recommended. This causes the last used scan mode to be selected automatically. If the "Last used" plug-in is selected for the initial start, a scan mode must be selected one time.

- Click on "Scan".
- Read X-ray images.

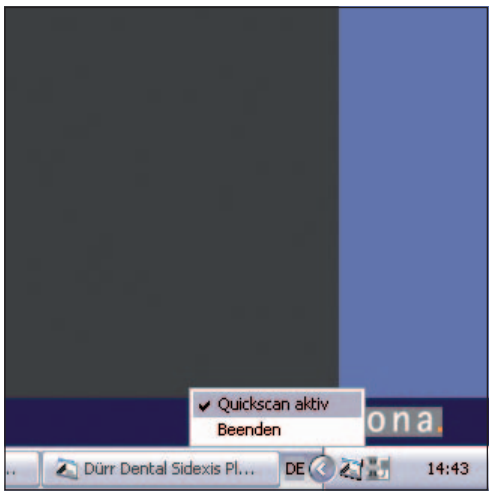
In the right-hand lower corner of the screen, the amount of images that have been read is displayed.

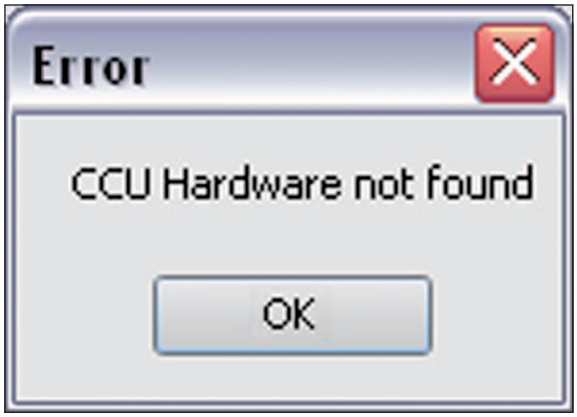
- Close scanning window.
- Close the PlugIn window with "Close".
- Save images via SIDEXIS.

Avoidable radiation exposure!

Images transferred by the PlugIn to SIDEXIS are not saved automatically in the database. When closing or deleting an image, it must always be saved. If this is not done, the data will be lost and the recording has to be repeated.

- "Demo wihtout VistaRay" must be set under "Operating mode“.
- Accept settings.
- Close configuration.
- Restart SIDEXIS to accept the changes.





16.4 Helpful information

Program crash

If SIDEXIS crashes, proceed as follows:

- Restart SIDEXIS.
- Reload the patient that was loaded previously before the crash.
- Start the plugin.

The images that are read in are recovered automatically.

"Quickscan“

After starting the plug-in, a checkmark can be set for "Quickscan active" in the lower part of the Window. If this checkmark is set, the scan window is opened immediately upon starting the plug-in. Depending on the default settings, the last used scanning mode is selected automatically or a scanning mode can be selected.

The checkmark "Quickscan active“ can only be deactivated in the task bar with the Plug-In icon.

- Right click on the Plug-In icon.
- Remove the checkmark for "Quickscan active“ entfernen.

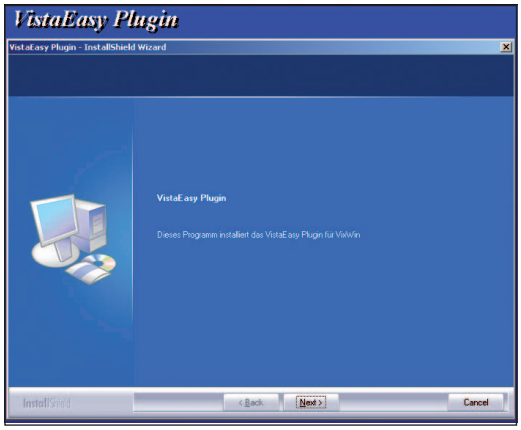
Error recovery

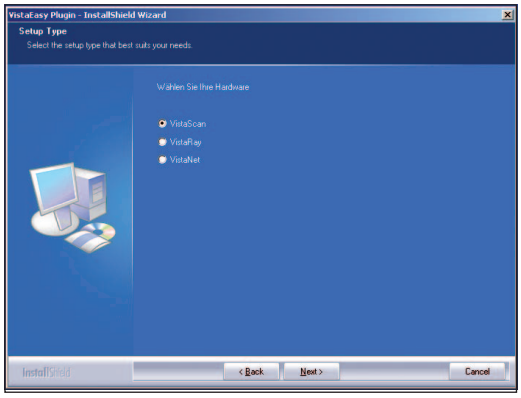
If the "CCU Hardware not found" window appears before reading an X-ray image, proceed as follows:

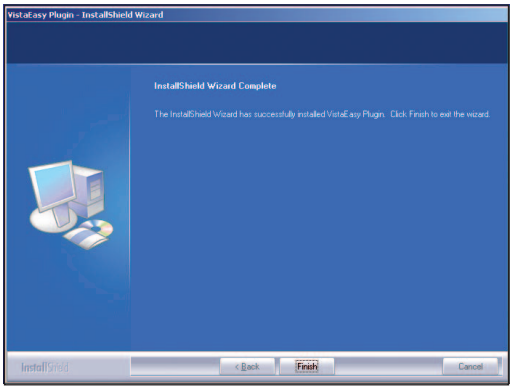
- Open "VistaRayConfig" using "Start/Programs/Duerr Dental/VistaConfig“.
- Set the operating mode to "Demo without VistaRay“ and save.

17. VixWin PlugIn









The plug-in was developed to operate a DÜRR DENTAL VistaScan with VixWin.

17.1 Installation

The installation of the VixWin PlugIn may be carried out only by technical staff trained and certified by Dürr Dental or by our service technician.

Installation prerequisites

The following components are required for the installation of the VixWin PlugIn:
- VixWin Pro 1.5f / VixWin Platinum 1.1
- Dürr Dental VistaScan / VistaScan Perio with corresponding driver
- DBSWIN CD-ROM, version 4.5
or higher (included in the delivery contents of the scanner)

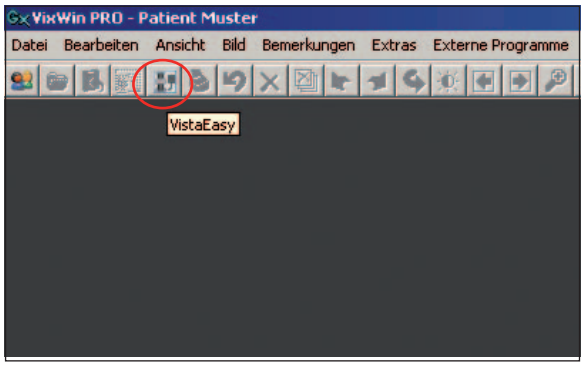
Installing the Components

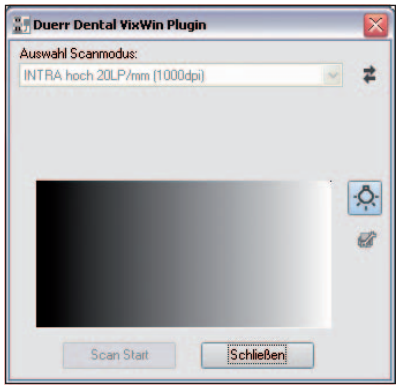
Install VixWin.
Install the drivers for the VistaScan / VistaScan Perio.

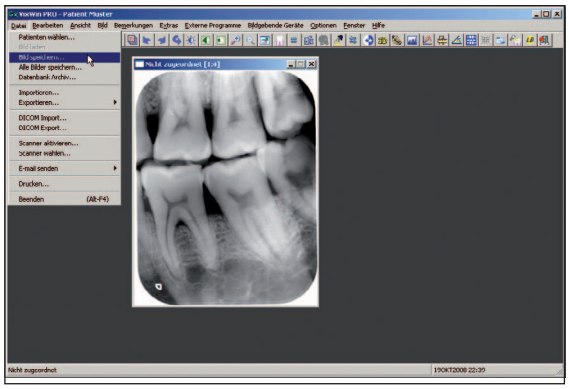
For the installation of VixWin and the drivers, please note the attached manufacturers' installation instructions.

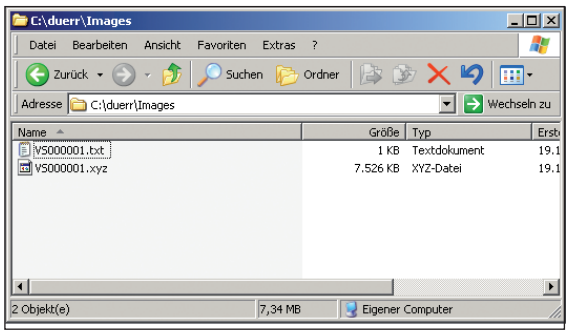
Put the DBSWIN CD-ROM into the CD-ROM drive.

The start window opens automatically.
If the CD-ROM does not start automatically,
double-click on the DBSWIN icon of "Workstation“
Double-click on the CD-ROM drive.
- Select the desired language.
- Select the "Drivers" tab.
- Under "PlugIns", select "Install VixWin PlugIn".
- Confirm message with "OK".
- Click on "Next".
- Select the DENTAL DÜRR X-Ray hardware.
- Click on "Next".
- Finish the installation with "Finish".
- Restart computer.









17.2 Application

- Start VixWin.
- Select a patient in VixWin.
- Start the plugin. (See Fig. 1)
- The scanning mode can be changed with the button (See image 2)

The last used scan mode is set by default.

- Click on "Scan Start".
- Read X-ray images.
- Close the PlugIn window with "Close".
- Store images via VixWin.

Avoidable radiation exposure!

Images transferred by the PlugIn to VixWin are not saved automatically in the database. Before closing or deleting an image, save the image via VixWin. If this is not done, the data will be lost and the recording has to be repeated.

17.3 Helpful information

Proceed as follows if VixWin crashes:

- Restart VixWin.
- Reload the patient that was loaded previously before the crash.
- Click on "File" and "Import". (see Fig. 3)
- Under "C:\Duerr\Images", select the file with extension .xyz or .bmp and import with "Open". (see Fig. 4)
- Store imported image via VixWin. (see Fig. 5)
- Open Windows Explorer.
- Delete all files from the path "C:\Duerr\Images".

VistaScan



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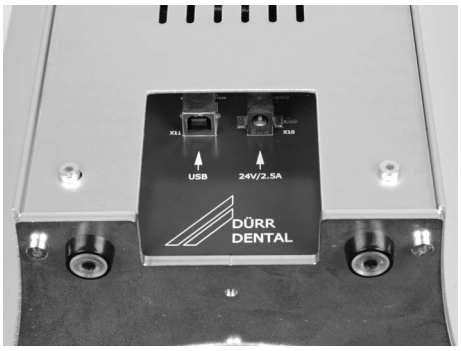
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VistaScan Perio & VistaScan Perio Net

Connection

VistaScan Perio



VistaScan Perio Net



Before initial start-up compare the operating voltage of 24 V DC and the supply voltage 220 V are consistent with the information on the model identification plate.
The connection ports are in the recesses on the rear side of the appliance.

- Connect the mains cable to the power supply unit.
- Plug in the power supply into the socket of VistaScan Perio.
- Plug the cable of the power supply unit into the socket
- With VistaScanPerio Net, connect the delivered network cable (RJ45) with the network socket and the PC or connect the network switch in a multi-station environment.
  (The USB socket on the Perio Net is deactivated and cannot be used!)
- With VistaScanPerio (USB solution), connect the delivered USB cable with the USB interface of the PC and the USB interface of the VistaScan Perio.

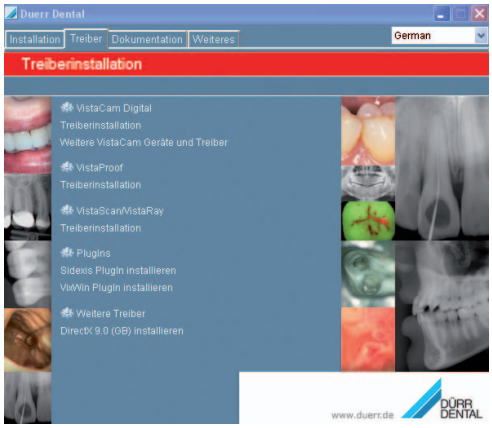
Network notes on Vista ScanPerio Net

For trouble-free communication in the network, the following Firewall ports are required by VistaScan Perio Net:

- Port **2006** TCP (data communication)
- Port **45123** UDP (VistaNetConfig)
- Port **45124** UDP (VistaNetConfig)
- Port **514** UDP (Logging)

Installation

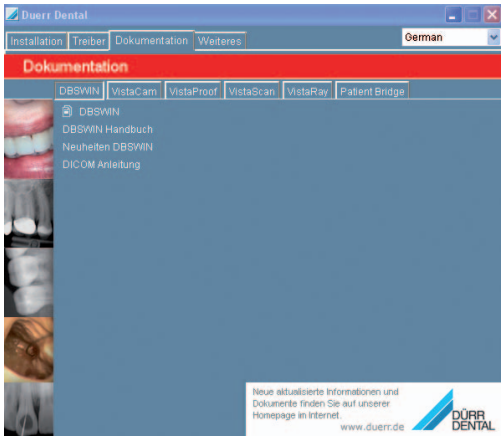
Driver software



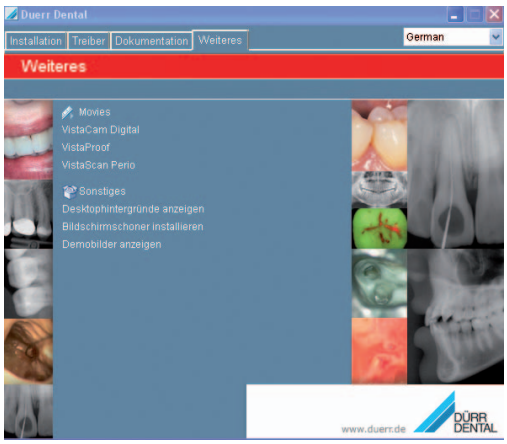
- Place the CD-ROM (e.g. DBSWIN from Version 4.x) supplied in the drive.
- Product drivers are found under the "Drivers" tab.

Click on "VistaScan/VistaRay driver installation" to install VistaScan Perio.

- The setup automatically installs the VistaScanConfig. Software.

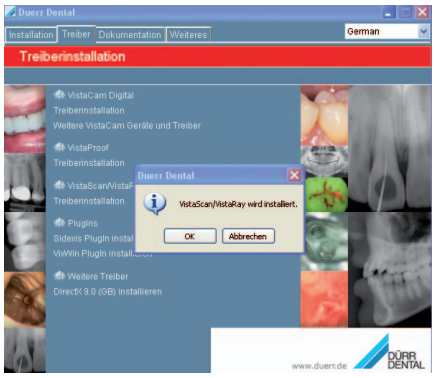


- DBSWIN novelties and the DBSWIN manual are found on the "Documentation" tab.



- Product clips and screen savers are found under the "More" tab.

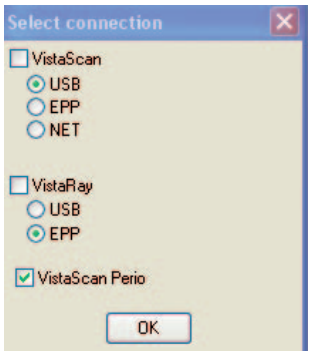
USB connection installation



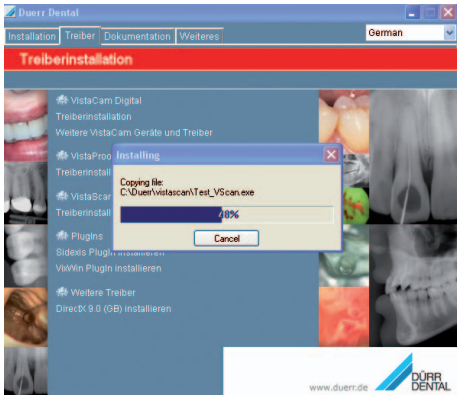
- Put the DBSWIN CD into the drive and select the "Drivers" tab.
- Click on the "VistaScan/VistaRay".
- Confirm the installation with "OK".

or

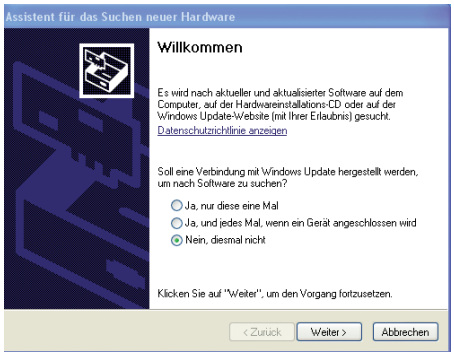
- Switch VistaScan Perio on
- Windows detects a new appliance.
- Select the option for manual installation and confirm with "Next“.



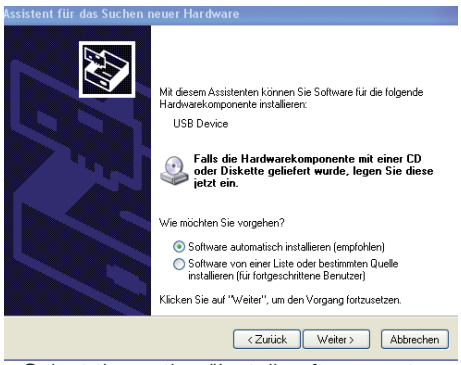
- Activate the respective VistaScan Perio in the checkbox in the component selection.
- Mark the "VistaScan Perio Net" box for VistaScan Perio Net.
- Confirm with "OK".



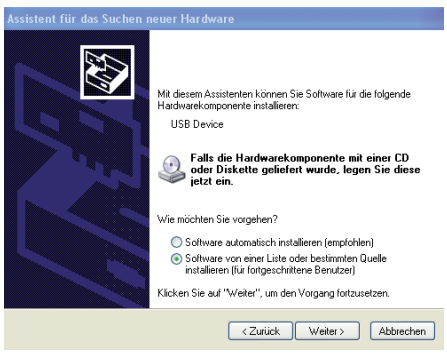
- VistaScan Perio installs 3 drivers!!!



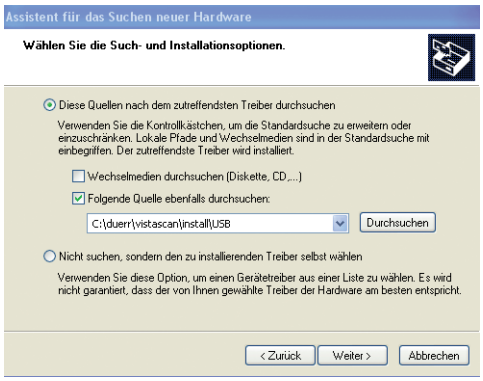
- Select the option "No, not this time" and click on "Next".



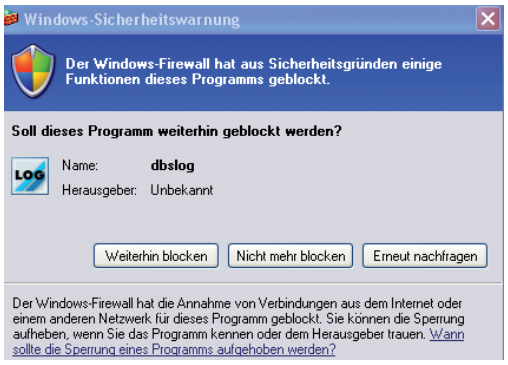
- Select the option "Install software automatically" and click on "Next".



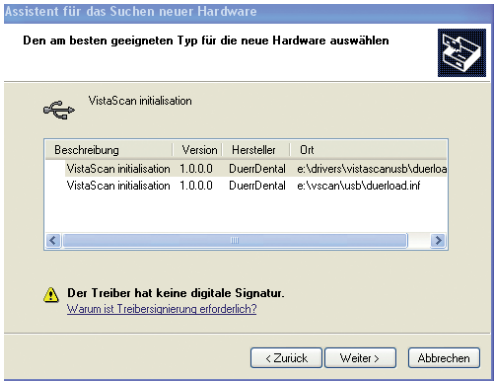
- As an alternative to the automatic installation, select option "Install software from a list" and click on "Next".



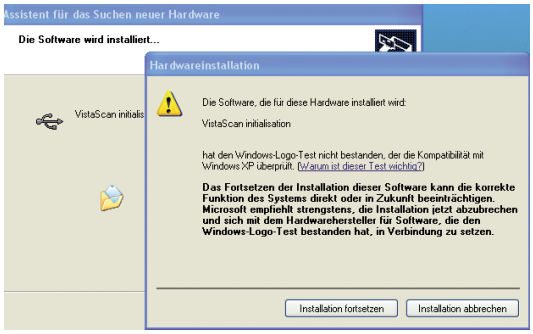
- Manually select the driver and click on "Next".



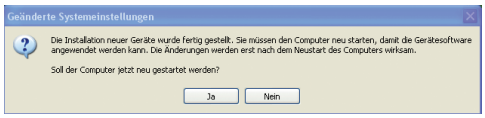
- In the Windows firewall window, click on "Quit blocking".



- Select the marked field and click on "Next".



- Click on option "Continue installation" 3 times and click "Next" to continue.
- 3 drivers are installed.



- Restart computer.

Tips for Operators and Technicians

Trouble-shooting

Problem	Possible cause	Solution
1. VistaScan Perio does not switch on	• No supply voltage	• Check the mains cable and all connections • Check the main fuse box to building • Check the power unit, whether green LED lights
	• On/Off switch is defective	• Inform your Service Technician
2. VistaScan Perio switches off after short period	• Mains cable or one of the plugs has not been inserted correctly	• Check the mains cable and all connections
	• Hardware defective	• Inform your Service Technician
	• Mains supply voltage too low	• Check the supply voltage
3. Status or operation LED does not light up	• LED defective	• Inform your Service Technician
4. Loud noises during operation after switching on	• If the noises persist longer than 30 seconds, the beam baffle is defective	• Inform your Service Technician
5. Image processing software does not recognise VistaScan Perio	• VistaScan Perio not switched on	• Switch VistaScan Perio on
	• Connection cable between VistaScan Perio and PC loose	• Check the USB cable
	• PC does not recognise connection to VistaScan Perio	• USB-driver not installed or inactive • Check the USB cable
	• Hardware fault	• Inform your Service Technician
6. Error during data transmission on between VistaScan Perio and PC. Fault message: "CRC fault" "Timeout"	• Hardware error of VistaScan Perio	• Inform your Service Technician
	• Wrong or too long USB cable used	• Use only original USB cable order no. 9000-119-067
7. Cartridge is not drawn in into the transport slot	• Film cassette not correctly inserted	• Place the film cassette correctly
	• Other cassettes are in the input buffer, status LED illuminated in orange	• Wait until input buffer is empty. Status LED is illuminated in green:
	• In case of not activated transport mechanism, the VistaScan Perio might not be ready for operation	• See section 16.5 Exporting image data
	• Cassette cover is not on the cassette	• Put the cassette cover on and position again

Problem	Possible cause	Solution
8. The cartridge is not transported in the output unit	• Cassette remains stuck in the transport slot	• Inform your Service Technician
	• Output slot blocked	• Remove the foreign object.
9. X-ray exposure does not appear on the monitor after scanning	• Image plate has been put in cassette upside down and the inactive side scanned	• Rescan the image plate as quickly as possible
	• Image data on the image plate has been erased, e.g. by ambient light	• Image data on the plate must be scanned as quickly as possible after extraction
	• Problem with the hardware	• Inform your Service Technician
	• X-ray device is faulty	• Inform your Service Technician
	• No image information on the image plate	• Expose the image plate
10. X-ray image too dark/ bright	• Incorrect brightness/ contrast setting in the software	• Set the brightness of the X-ray image using the software
11.Image presented as mirror image	• The image plate was placed in cassette or in the mouth of the patient the wrong way round	• Place and align the image plate correctly
12. X-ray image is noisy	• The image plate has been exposed too long to ambient light when introducing it into the foil cassette	• Position the image plate in the light protection cover flush with the foil cassette and insert it directly into the foil cassette from the light protection cover
	• X-ray dosis too low	• Check X-ray parameters
	• Image plate incorrectly placed in light protection cover	• Place image plate correctly. The black side (printed) of the image plate must be visible through the transparent side of the light protection cover.
	• The image plate was placed in cassette or in the mouth of the patient the wrong way round	• Place and align the image plate correctly
13. Ghost images and shadows on the X-ray exposure	• Image data on the image plate has not been sufficiently erased	• Replace the fluorescent lamp. See section 19.
14. Image is very faint on the scanning window software cannot piece the data together to form a complete picture	• The X-ray dose used for the image plate was too low	• Increase the X-ray dosage
	• Amplification level too low (HV-value)	• Increase the amplification (HV-value)
	• Unsuitable scanning mode used	• Choose a suitable scanning mode
	• Threshold setting too high	• Reduce the settings

Problem	Possible cause	Solution
15 . X-ray exposure has stripes on image	• Image plate has been exposed	• Only use the image plate within 24 hours of data erasure.
	• Part of the image plate was exposed to light during handling	• Do not expose used image plates to light. Exposure and the scanning of the image data should be carried out within half an hour.
	• Image plate was dirty or scratched	• Clean the image plate by wiping carefully using a soft cloth and special cleaning agent taken from the cleaning set. All image plates with scratches must be replaced immediately
16. Warning message: "Too much ambient light"	• VistaScan Perio is exposed to too much light	• Darken the room • Turn VistaScan Perio so that the light does not fall directly on the insertion slot
17. Pale stripes in scanning window	• Too much stray light entered during scanning	• Darken the room • Turn VistaScan Perio so that the light does not fall directly on the insertion slot
18. As well as the correct image, narrow images with light and dark streaks are visible	• Too much stray light entered during scanning	• Darken the room • Turn VistaScan Perio so that the light does not fall directly on the insertion slot
19. Blue LED is flashing	• No connection between VistaScan Perio and PC	• Activate VistaScan Perio via the software • USB-driver not installed or inactive • Check the USB cable
	• Data storage in VistaScan Perio is full	• Use software to set up state of readiness. The image data are automatically transmitted from VistaScan Perio to the software

Replacement parts list & service work

	Work	Annually	Every 3 years	Required parts
Check and clean	**Optical control of the scanner**	**X**		
	Check contact surfaces on the film cassettes for wear and clean if necessary	**X**		
	Guides on system tube	**X**		
	Carry out a system check with VistaScan-Config	**X**		
Replace the following parts as preventive measure	**Replace transport wheels**		**X**	**2140-300-02E**
	Replace brush set on the output unit		**X**	**2140-601-00E**
	Replace fluorescent lamps in the erasure unit after 40,000 erasing cycles (software message)			**9000-109-75E** (1 Lamp included in scope of delivery)

Having DÜRR DENTAL do a general overhaul of the VistaScan Perio is recommended every 8 years.

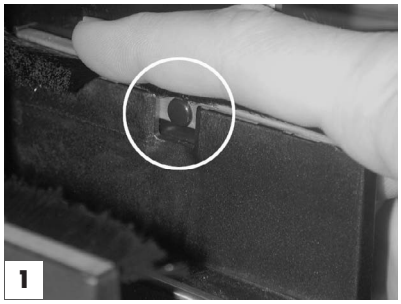
VistaScan Perio Service Kit (2140-954-50)	
2140-300-02E	Transport wheels set
2140-601-00E	Brushes

Replacement parts list VistaScan Perio individual:	
Cover	Order no. 2140-100-00E
Transport wheel set	Order no. 2140-300-02E
Output unit	Order no. 2140-600-00E
Brush set	Order no. 2140-601-00E
Lock	Order no. 2140-700-00E
Fluorescent lamp	Order no. 2140-109-75E

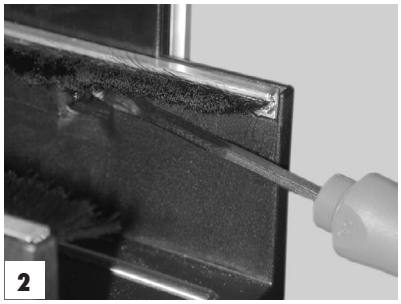
Repair lines

Replacing the brushes

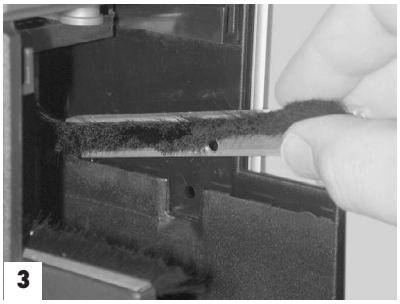




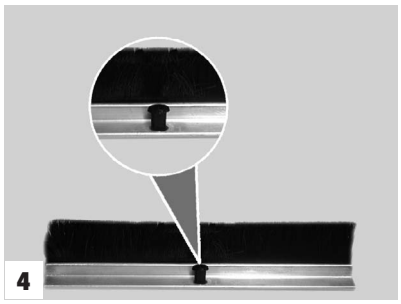
- The brush is secured with a body-bound rivet.



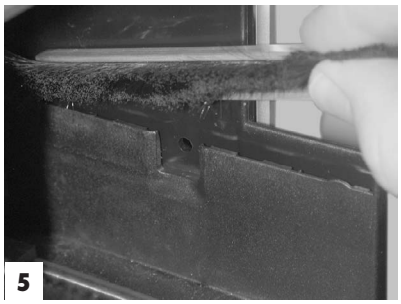
- Remove the expanding mandrel and sleeve with a flat screwdriver.



- Take the brush out of the holder.



- Push in the new expanding mandrel slightly into the bore of the new brush.

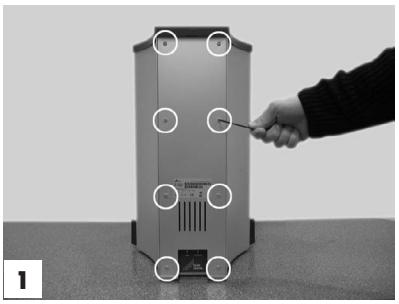


- Insert the brush in the holder.

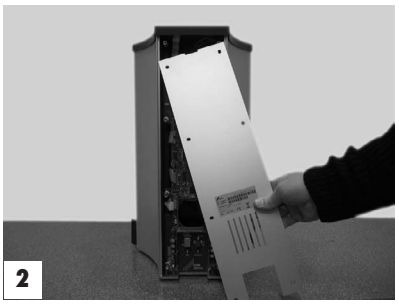


- Push in the expanding sleeve.
- Insert the expanding mandrel into the sleeve.

Replacing the printed board of the control



- Unscrew the hexagon socket screws on the rear.

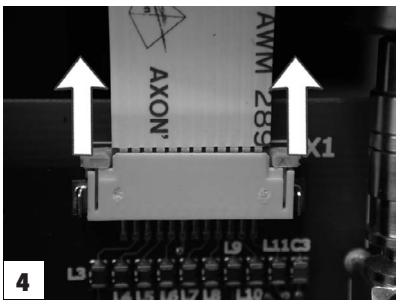


- Remove the cover.

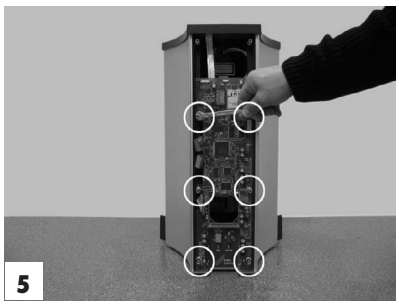


- Pull out the connector from the board.

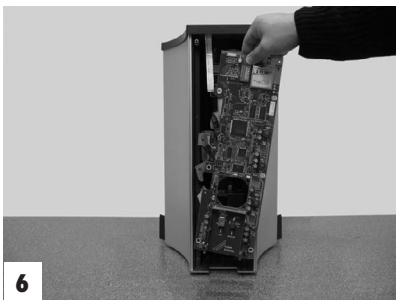
The protective regulations ESD have to be taken into account when handling electronic components.



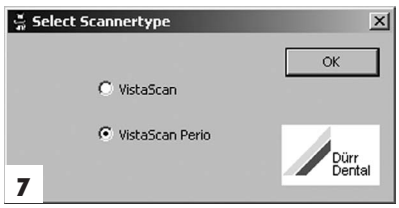
For the upper left panel connector, first unlock the tip jack and then remove the connector.•



- Unscrew the distance bolt using a fixed spanner.



- Remove the old PCB.
- Insert a new PCB.
- Carry out the steps 5 to 1 in inverse order to close the device.



- Switch on the VistaScan Perio
- Execute the program "Service-Scanner.exe“.

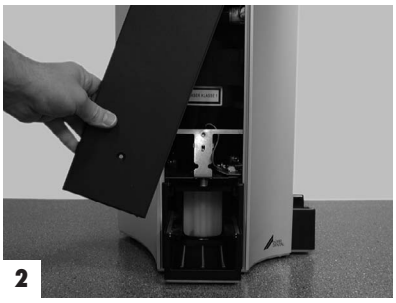


- Select VistaScan Perio and confirm by pressing "OK".
- Click on "Open File".
- Select the file "Save_[SN of the scanner].bin“ in the open window in directory C:\Duerr\vistascan.
- Click "Program ID-Prom“.
- Close the program.

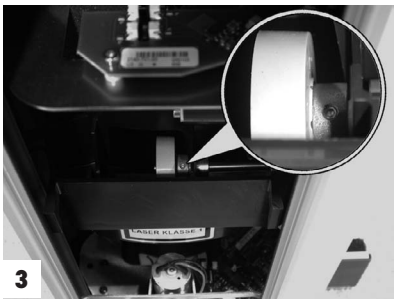
Replacing the transport wheel



- Remove the cap and loosen the hexagon socket screw using an Allan key. See fig. 1

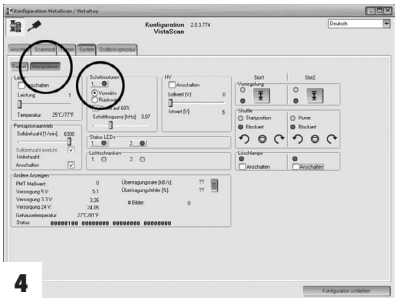


- Remove the cover.



- Loosen the set screw on the transport wheel turning it once or twice. **Do not unscrew it completely. The set screw might fall into the device.**

If the set screw is not visible, plug in VistaScan Perio, connect it to the computer and switch it on.

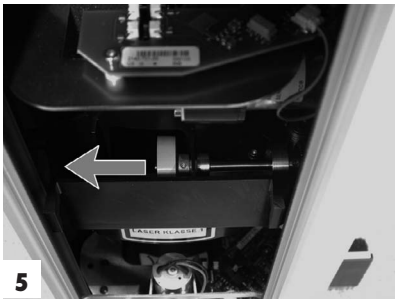


Turn the transport wheel into position:

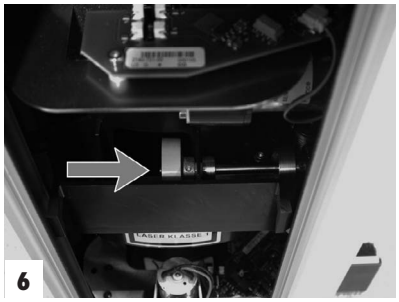
Danger due to electric current and moving parts if the device is open. Risk of crushing and electric shock.
Do not switch on the laser in VistaScanConfig. Risk of damage to the eyes.

- Open the program "VistaScan-Config“ (Start/Program Files/Duerr Dental/VistaConfig)
- Click "Manipulate".
- Switch on the stepping motor manually until the set screw can be accessed.
- Switch off VistaScan.

Pull out the mains plug and separate all connections.



- Remove the old transport wheel.

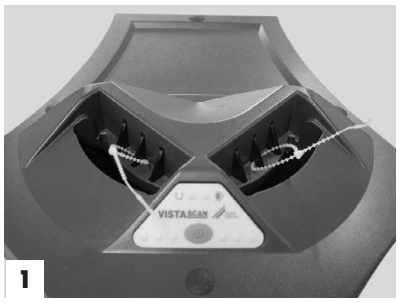


- Push the new transport wheel until the stop onto the shaft.
- Tighten the set screw.

The set screw must be pulled onto the milled surface of the drive shaft. This prevents spinning of the transport wheel.

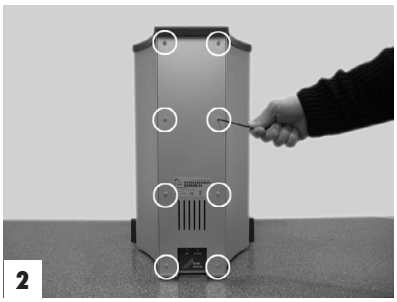
- Carry out the steps 3 to 1 in reverse order to close the device.

Replacing the cover

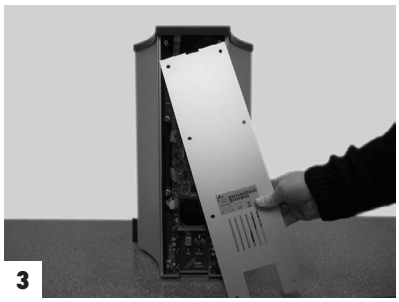


- Secure the flaps on the device with the delivered cable binders.

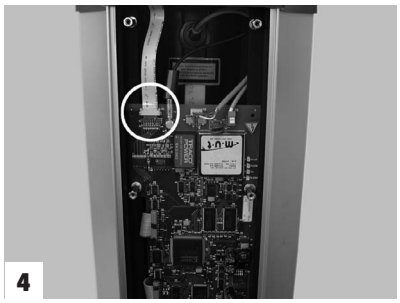
Not secured flaps might fall into the device when removing the cover and damage the it.



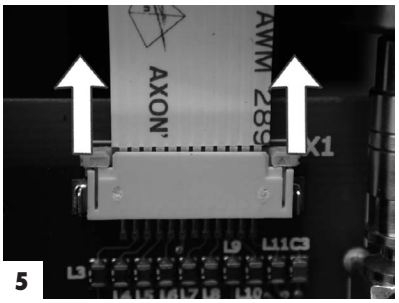
- Unscrew the screws of the rear cover.



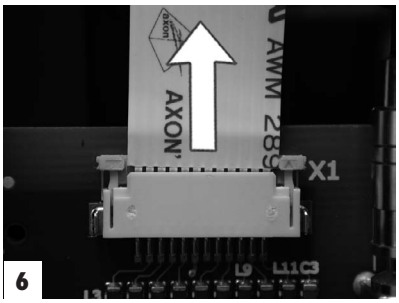
- Remove the cover.



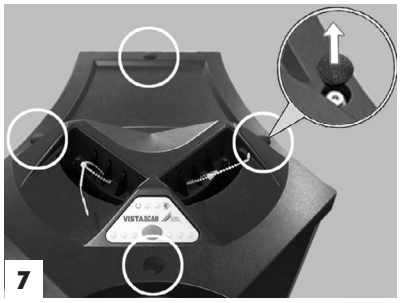
The protective regulations ESD have to be taken into account when handling electronic components.



- Unlock the tip jack.

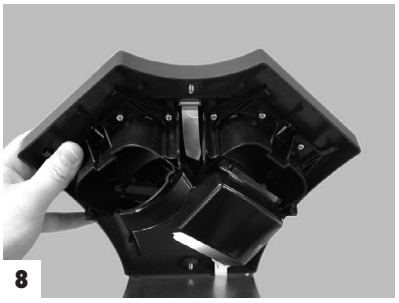


- Unplug the flat cable.



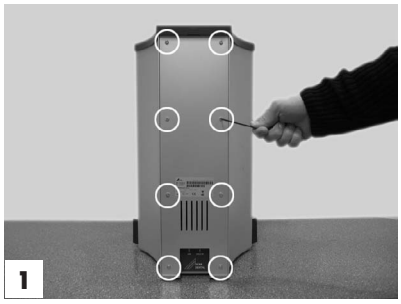
- Remove the caps on the cover.
- Unscrew the hexagonal socket screws.
- Remove the cover.
- Pull the flat cable of the new cover through the apertures of the metal cover and position the cover.

Do not squeeze nor buckle the flat cable.

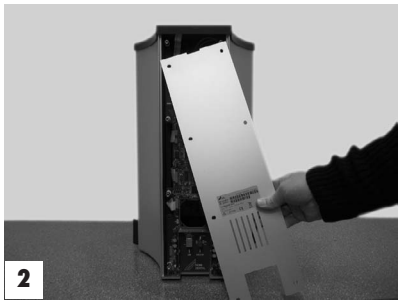


- Insert the flat cable into the tip jack.
- Lock the tip jack.
- Tighten the hexagon socket screws on the cover and insert the caps.
- Position the rear cover and tighten the hexagon socket screws.
- Remove the cable binders from the flaps.
- Check the correct functioning of the cover by scanning storage foils in both slots.

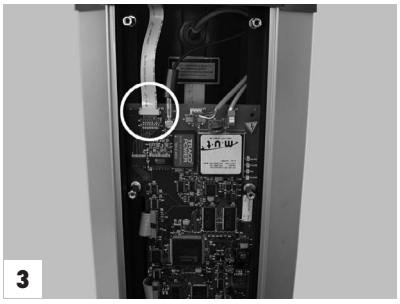
Replacing the locking



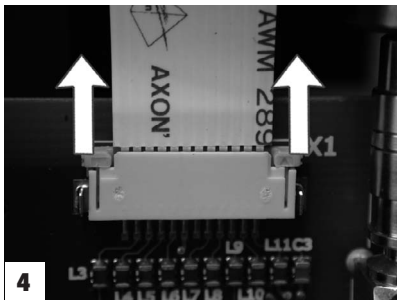
- Unscrew the hexagon socket screws on the rear. See fig. 1



- Remove the cover. See fig. 2



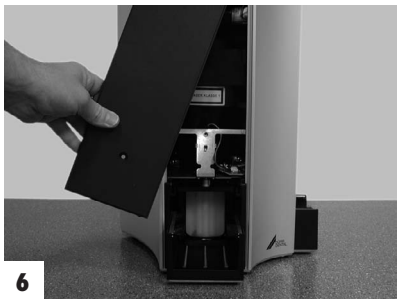
The protective regulations ESD have to be taken into account when handling electronic components.



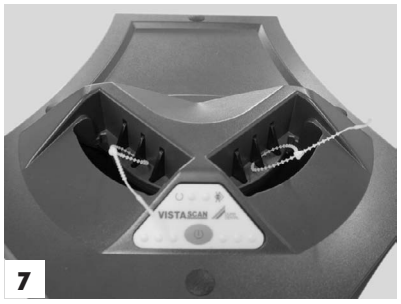
- Unlock the tip jack.
- Unplug the flat cable.



- Remove the caps and unscrew the hexagon socket screw using and Allan key..

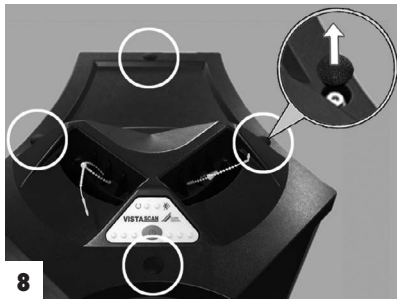


- Remove the cover.

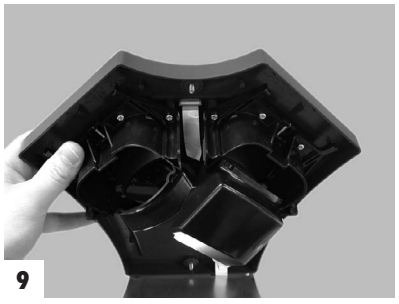


- Secure the flaps on the device.

Not secured flaps might fall into the device when removing the cover and damage the it.



- Remove the caps on the cover.
- Unscrew the hexagonal socket screws.



- Remove the cover.



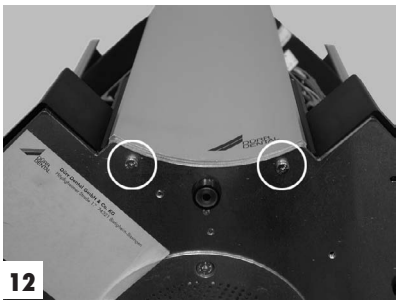
10

- Loosen the hexagon socket screws on the cover sheet.



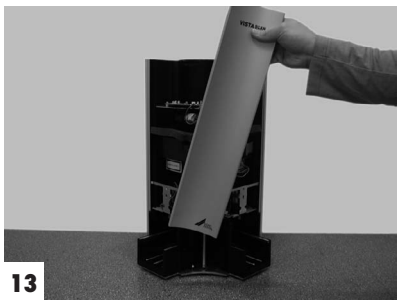
11

- Remove the cover sheet.



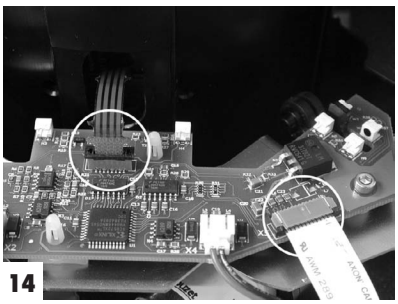
12

- Unscrew the hexagon socket screws on the bottom of the Vista-Scan Perio.



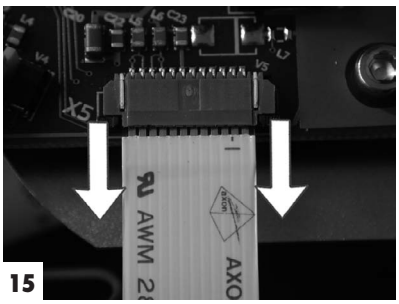
13

- Remove the diaphragm.



14

The protective regulations ESD have to be taken into account when handling electronic components.



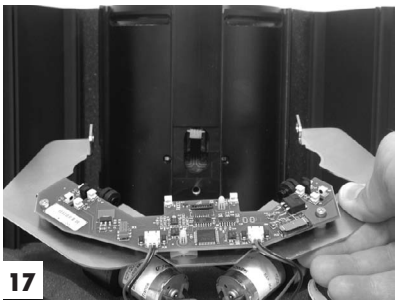
15

- Unlock the tip jack.
- Unplug the flat cable.



16

- Unscrew the hexagon socket screws of the locking.



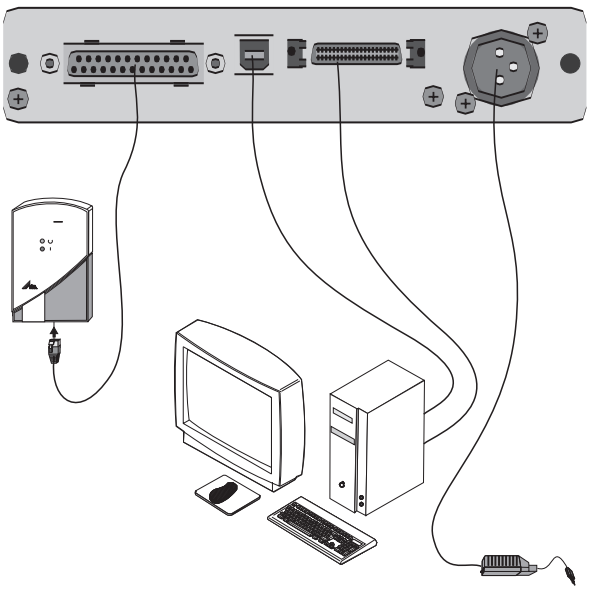
17

- Remove the old locking.
- Insert the new locking.
- Carry out the steps 16 to 1 in inverse order to close the device.
- For testing, scan storage foils.

VistaScan PLUS

Connection





- Connect the mains cable to the appliance power unit and to the mains supply. Plug the power supply into VistaScan.

VistaScan is designed for a mains voltage between 100 V and 240 V and 50-60 Hz. Before connection of the main power cable, it is important to check whether the required voltage is available, otherwise the appliance can be damaged. Use the Dürr power cable, order number 9000-118-71, included in the delivery.

Installation

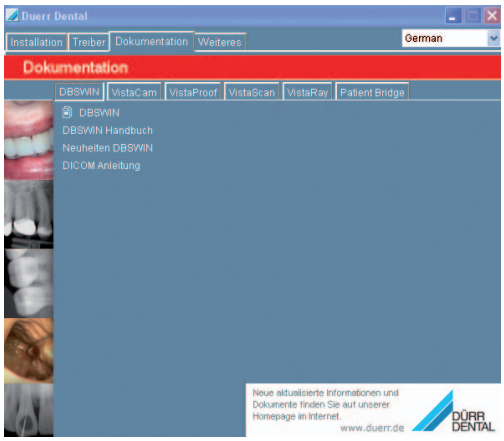
Driver software



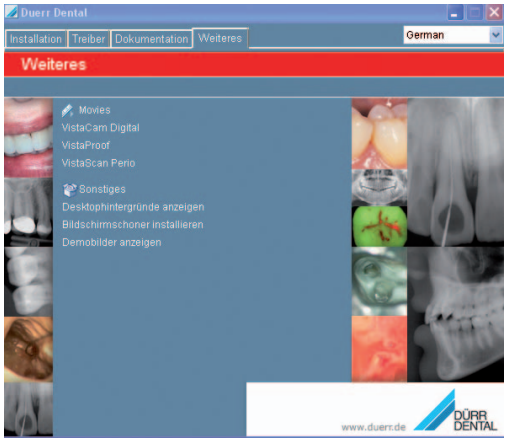
- Put the delivered CD ROM/DVD-ROM in the drive.
- Product drivers are found under the "Drivers" tab.

Click on "VistaScan/VistaRay driver installation" to install VistaScan Perio.

- The setup automatically installs the VistaScanConfig. Software.

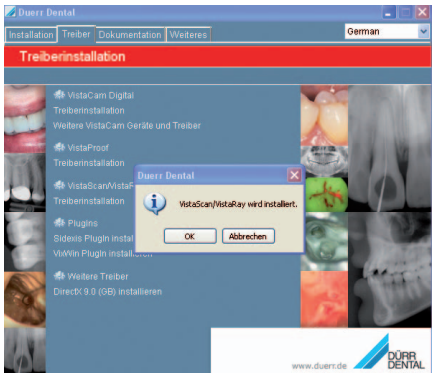


- DBSWIN novelties and the DBSWIN manual are found on the "Documentation" tab.



- Product clips and screen savers are found under the "More" tab.

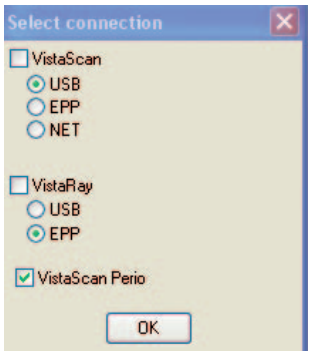
USB connection installation



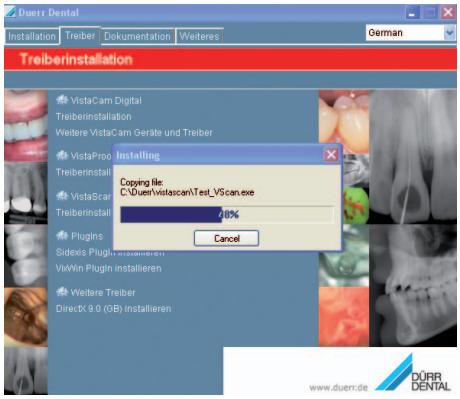
- Put the DBSWIN CD into the drive and select the "Drivers" tab.
- Click on the "VistaScan/VistaRay".
- Confirm the installation with "OK".

or

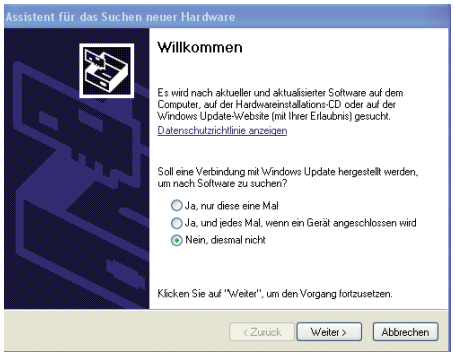
- Switch VistaScan Perio on
- Windows detects a new appliance.
- Select the option for manual installation and confirm with "Next“.



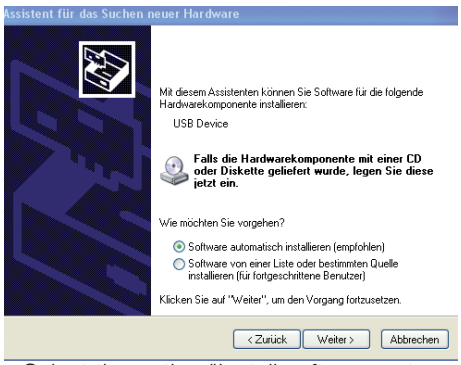
- Activate the respective VistaScan Perio in the checkbox in the component selection.
- Mark the "VistaScan Perio Net" box for VistaScan Perio Net.
- Confirm with "OK".



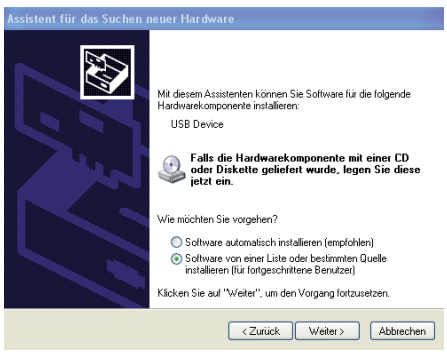
- VistaScan Perio installs 3 drivers!!!



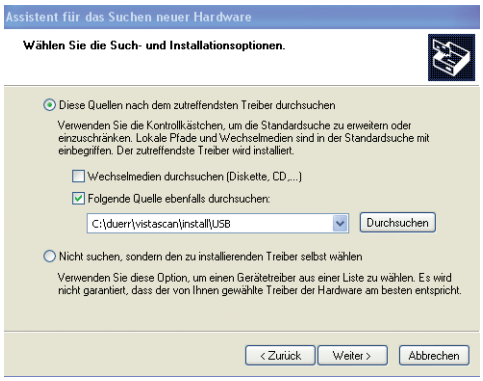
- Select the option "No, not this time" and click on "Next".



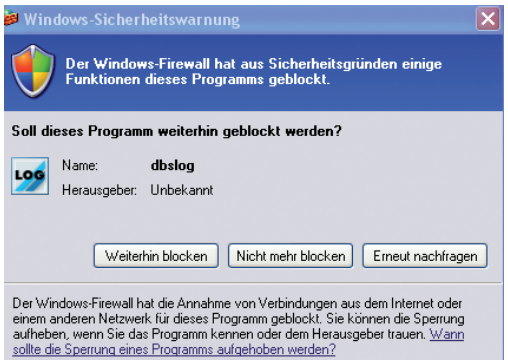
- Select the option "Install software automatically" and click on "Next".



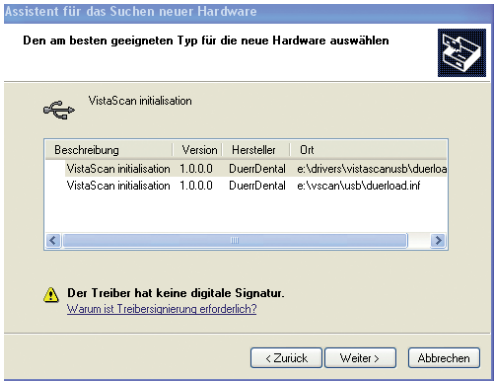
- As an alternative to the automatic installation, select option "Install software from a list" and click on "Next".



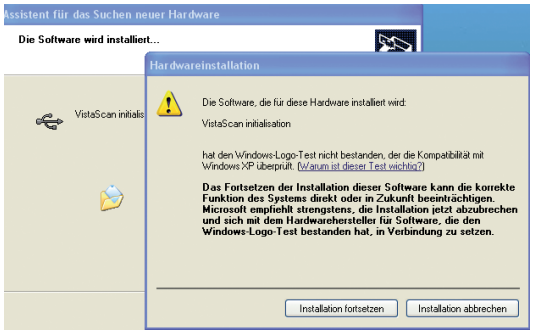
- Manually select the driver and click on "Next".



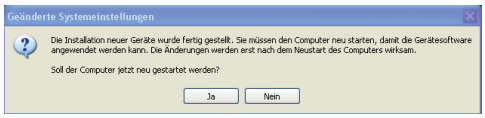
- In the Windows firewall window, click on "Quit blocking".



- Select the marked field and click on "Next".



- Click on option "Continue installation" 3 times and click "Next" to continue.
- 3 drivers are installed.



- Restart computer.

Tips for Operators and Technicians

Trouble-shooting

Problem	Possible cause	Solution
1. VistaScan does not switch on	• No supply voltage	• Check the mains cable and all connections
		• Check the main fuse box to building
		• Check the power unit, whether green LED lights
	• On/Off switch is defective	• Inform your Service Technician
2. VistaScan switches off after short period	• Mains cable or one of the plugs has not been inserted correctly	• Check the mains cable and all connections
	• Hardware defective	• Inform your Service Technician
	• Mains supply voltage too low	• Check the supply voltage
3. Status, error or operation LED does not light up	• LED defective	• Inform your Service Technician
4. Loud noises during operation after switching on	• If the noises persist longer than 30 seconds, the beam baffle is defective	• Inform your Service Technician
5. Image processing software does not recognise VistaScan	• VistaScan is not switched on	• Switch on VistaScan
	• Connection cable between VistaScan and PC is loose	• Check all connection cables
	• PC does not recognise connection to VistaScan	• Check that the LPT interface is EPP compatible according to IEEE 1284
		• Bios must be set to EPP
		• USB-driver not installed or inactive
	• Hardware problem with VistaScan	• Inform your Service Technician
6. Problem with the data transfer between VistaScan and PC. Fault message: "CRC fault" "Timeout"	• Connection cable of wrong type or too long	• Only use original "Dürr cable" order number 9000-119-016
	• Printer selection box being used	• Do not use a printer selection box
7. Image plate is not drawn into the appliance via transport arc	• Film cassette not correctly inserted	• Place the film cassette correctly
	• Transport mechanism activated - film cassette lever has not been pulled down sufficiently	• Pull the lever the whole way down until the image plate is drawn in.
	• Transport mechanism activated - VistaScan may not be on stand-by	• See section 17.4 Scanning and Erasure of image data (intraoral), or section 18.4 Scanning and Erasure of image data (extraoral)

Problem	Possible cause	Solution
8. X-ray exposure does not appear on the monitor after scanning	• Image plate was inserted upside down and the inactive side scanned	• Rescan the image plate as quickly as possible
	• Image data on the image plate has been erased, e.g. by ambient light	• The image data collected on the image plate must be scanned as soon as possible after removal from the light protection sleeve or the film cassette
	• Problem with the hardware	• Inform your Service Technician
	• X-ray device is faulty	• Inform your Service Technician
	• No image information on the image plate	• Expose the image plate
9. X-ray exposure is too dark	• X-ray exposure is overexposed	• Set the brightness of the X-ray image using the software
	• The image plate was exposed to too much light before insertion into the film cassette	• Insertion must be carried out within 30 seconds under ambient light conditions of under ca. 20 Lux.
10. Intraoral image appears on the monitor at an angle	• The image plate was scanned without the film cassette	• The image plates must always be placed in a film cassette before insertion
	• Incorrect size of film cassette was used	• Use a film cassette of the correct size
11.Image presented as mirror image	• The image plate was placed in cassette or in the mouth of the patient the wrong way round	• Place and align the image plate correctly
	• Incorrect parameters chosen	• Choose the correct parameter settings
12. Ghost images and shadows on the X-ray exposure	• Error message from software. Image plate data insufficiently erased.	• Check the erasure unit function
		• If this happens again call the service technician
13. Image is very faint on the scanning window software cannot piece the data together to form a complete picture	• The X-ray dose used for the image plate was too low	• Increase the X-ray dosage
	• Amplification level too low (HV-value)	• Increase the amplification (HV-value)
	• Unsuitable scanning mode used	• Choose a suitable scanning mode
	• Threshold setting too high	• Reduce the settings

Problem	Possible cause	Solution
14. X-ray exposure has stripes on image	• Image plate has been exposed	• Only use the image plate within 24 hours of data erasure.
	• Part of the image plate was exposed to light during handling	• Do not expose used image plates to light. Exposure and the scanning of the image data should be carried out within half an hour.
	• Image plate was dirty or scratched	• Clean the image plate by wiping carefully using a soft cloth and special cleaning agent taken from the cleaning set. All image plates with scratches must be replaced immediately
15. Intraoral image plate does not fall into the collecting tray	• The intraoral image plate has been subject to a static charge and sticks to insertion slot of transport arc	• Remove the intraoral image plate carefully by hand. Do not slide the image plate over the housing.
16. Warning message: "Too much ambient light"	• VistaScan subject to too much light	• Darken the room • Turn VistaScan so that the light does not fall directly onto the entry slot • Replace the light protection brushes
17. Pale stripes in scanning window	• Too much stray light entered during scanning	• Darken the room • Turn the VistaScan so that the light does not fall on the insertion slot • Replace the light protection brushes
18. As well as the correct image, narrow images with light and dark streaks are visible	• Too much stray light entered during scanning	• Darken the room • Turn the VistaScan so that the light does not fall on the insertion slot • Replace the light protection brushes
19. There is a wide, pale stripe at the top border of the image	• Light entered after scanning and this was recognised by the software as belonging to the image.	• Ensure film cassettes engage completely • Only remove the film cassette once scanning has finished completely • Darken the room • Turn the VistaScan so that the light does not fall on the insertion slot
20.Warning: wrong power unit	• Incorrect power unit has been connected	• Connect the correct power unit
	• Internal connection cable for erasure unit defective or plug slid out of place	• Check plug and connect correctly if necessary or contact DÜRR Service
	• Defective erasure unit	• Contact DÜRR Service
	• Defective 3.15A fuse on controller	• Contact DÜRR Service
21. Warning: excessive heating	• Laser too hot	• Switch off the VistaScan and allow to cool
	• Erasure unit too hot	
22.Warning: erasure unit fault	• LED defective	• Inform your Service Technician
	• LED dirty	

Problem	Possible cause	Solution
1. LED I (12) on the CCU control unit (1) does not light up.	• Problem with power supply to CCU control unit (1).	• Plug in the power unit (2).
		• Check that the mains supply cable is firmly plugged in the CCU control unit (1).
		• Check plug and socket for function.
		• Remove power unit (2) from mains supply for 10 seconds and then plug in again.
		• Replace the power unit.
		• Replace the CCU control unit (1).
2. LED I (12) lights red.	• CCU control unit (1) control program not loaded	• Remove power unit (2) from mains supply for 10 seconds and then plug in again.
		• Replace the CCU control unit (1).
3. LED I (12) blinks red.	• Problem with power supply	• Check that the mains supply cable is firmly plugged in the CCU control unit (1).
		• Replace the power unit.
		• Replace the CCU control unit (1).
4. LED ∪ (13) blinks yellow.	• VistaRay has not yet been activated by the X-ray software (DBSWIN).	• Start the X-ray module of DBSWIN in order to activate the CCU control unit (1).
5 LED ∪ (13) does not light up.	• There is an image in the save image feature of the CCU control unit (1) (as long as LED I (12) shows green).	• Start the X-ray module of DBSWIN in order to scan an image.

Replacement parts list & service work

	Work	Annu-ally	Every 3 years	Required parts
Check	**Optical control of the scanner**	**X**		
	Check the image plates and foil cassettes for scratches and replace them if necessary	**X**		
	Check the belt drive, transport belts and springs	**X**		
	Check the light protection brushes, cut possibly protruding hairs and remove them	**X**		
	Check the capstan idler modules		**X**	
	Carry out a system check with VistaScanConfig	**X**		
Cleaning	**Remove the transport arcs from VistaScan and remove any dust and dirt from the accessible components**	**X**		
Replace the following parts as preventive measure	**Replace 4x transport belts and 8x tension springs**		**X**	**2130-993-00**
	Replace the capstan idler modules			**2150-210-00E**
	Replace the drive belt			**2130-315-00E**

Having DÜRR DENTAL do a general overhaul of the VistaScan PLUS is recommended every 8 years.

VistaScan Combi / Omni Service Kit (Order No.: 2130-954-50)	
Transport belt set 4x	2130-993-00
Light protection brushes set	2130-205-00E
Optical cleaner	2101-025-50
Rubber buffer set (4 pcs.)	2130-305-00E

Replacement parts list VistaScan Combi/Omni individual:	
Drive belt set	Order no. 2130-315-00E
Transport belt set 4x	Order no. 2130-993-00
Light protection brushes set	Order no. 2130-205-00E
Rubber buffer set (4 pcs.)	Order no. 2130-305-00E
Capstan idler module set	Order no. 2130-210-00E
Belt drive set cpl. 4x	Order no. 2130-310-00E
Transport arc cpl.	Order no. 2130-300-00E

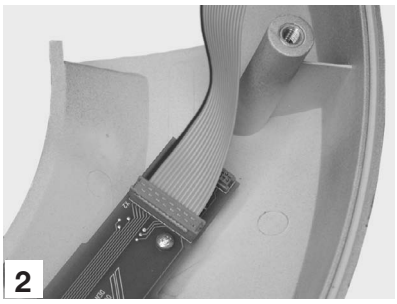
Only replace rubber buffer 2130-305-00E after a visual inspection if necessary please.
In the service kit, a set Set = four pieces, is included,
for a complete replacement, two sets are required.

Repair instructions

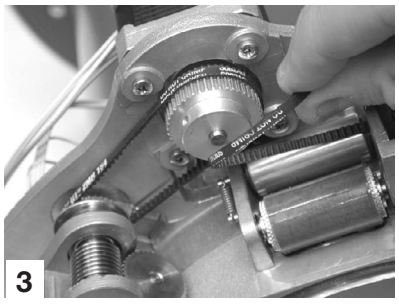
Replacing the transport belt set



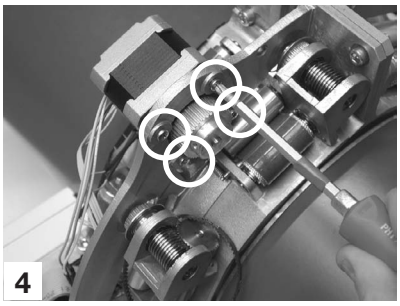
- Remove the hexagonal socket screws (right, left and below) and take off the cover of the transport arc.



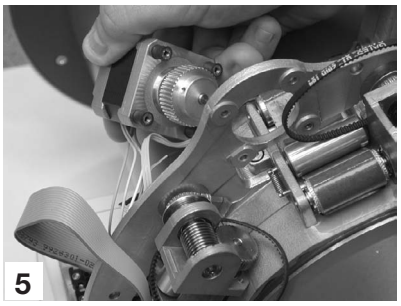
- Mark the actual position of the connectors with a felt tip marker or similar before removing them.
- Remove the connectors from the PCB (mother board) located in the cover of the transport arc.



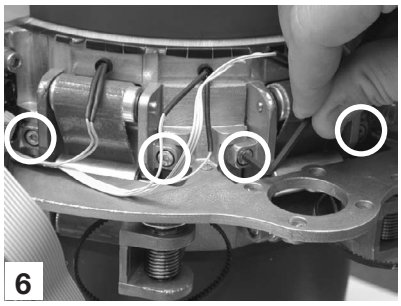
- Slide the belt from the toothed wheel of the stepping motor.



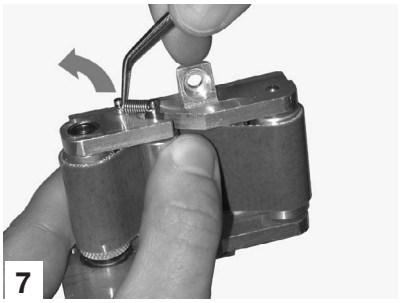
- Remove the cross-headed screws from the motor.



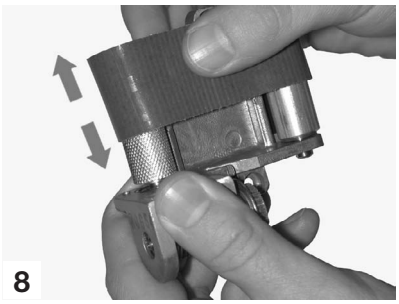
- Remove the motor and put it aside. **Do not let the motor hang from any cable.**



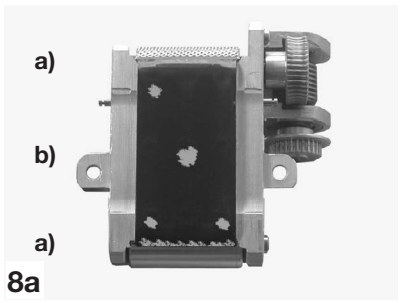
- Remove the hexagonal socket screws from the belt drive.
- Remove the belt drive.



- Remove the spring from the roller with the aid of a pair of tweezers and remove from the fixture. **The spring must not be overtensioned**.
- Remove the drag roller from its housing.



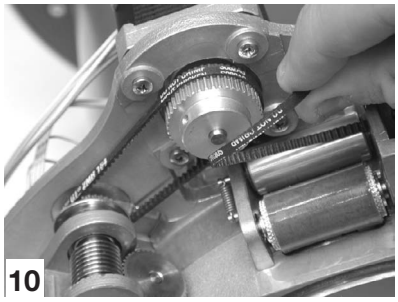
- Remove the transport belt
- Check the correct functioning of the transport rollers and clean them if necessary (see also fig. 8a)
- Attach a new transport belt



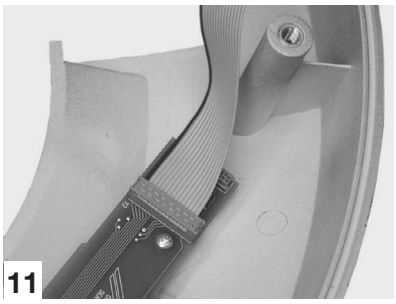
The belt drive order number 2130-310-00E must be completely replaced, when:

a) the upper or lower teflon layer is torn or damaged

b) the teflon layer is so badly damaged that the aluminium or any adhesive residue is visible


10

- Slide the belt back over the toothed wheels of the stepping motors.
  Observe the arrangement of the belts!


11

- Replace the connectors from the PCB (mother board) located in the cover of the transport arc.

Check the correct position! The red cable must point in the direction of the inside of the cover.


12

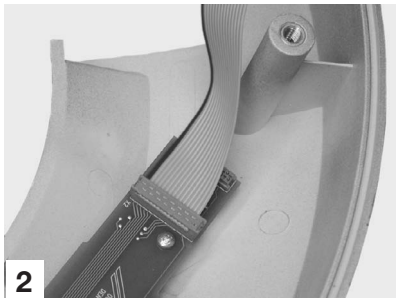
- Mount the cover of the transport arc.

The flat cable harness must be positioned in a way that it does not get pinched and cannot interfere with the function of the transport arc.

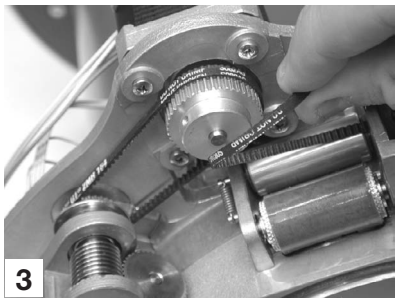
Replacing the belt drive



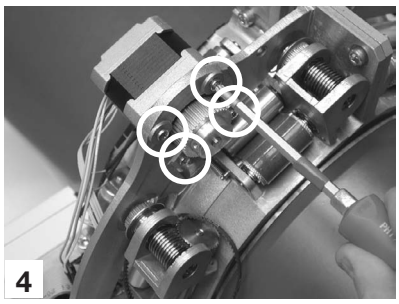
- Remove the hexagonal socket screws (right, left and below) and take off the cover of the transport arc.



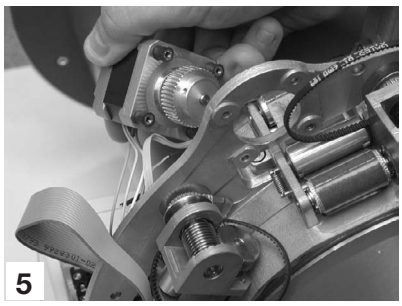
- Mark the actual position of the connectors with a felt tip marker or similar before removing them.
- Remove the connectors from the PCB (mother board) located in the cover of the transport arc.



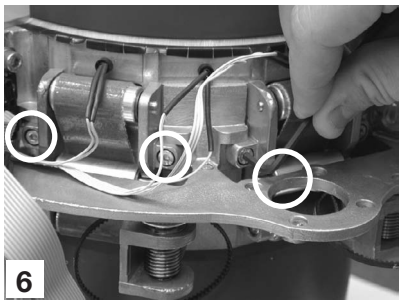
- Slide the drive belt from the toothed wheel of the stepping motor.



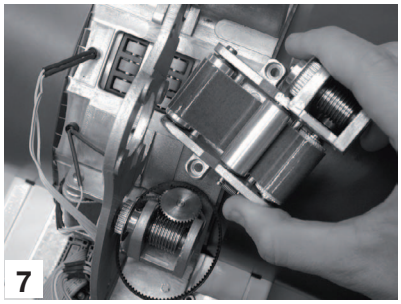
- Remove the cross-headed screws from the motor.



- Remove the motor and put it aside. Do not let the motor hang from any cable.



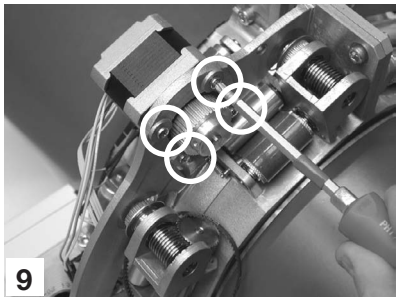
- Remove the hexagonal socket screws from the belt drive.



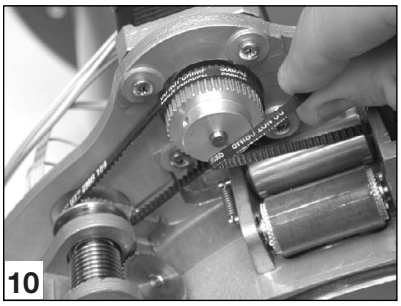
- Remove the belt drive.
- Place the toothed belts onto the toothed wheels of the new belt drive.
- Mount the new belt drive to the transport arc.



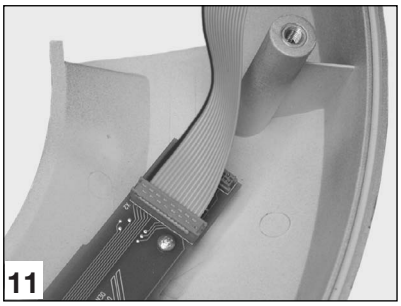
- Set the motor into the counterbores.
- The motor connection cable must point in the direction of the transport arc connections.



- Mount the motor using four cross-headed screws and the toothed lock washer onto the transport arc.



- Slide the belt back over the toothed wheels of the stepping motors.
  Observe the arrangement of the belts!



- Replace the connectors from the PCB (mother board) located in the cover of the transport arc.

Check the correct position! The red cable must point in the direction of the inside of the cover.



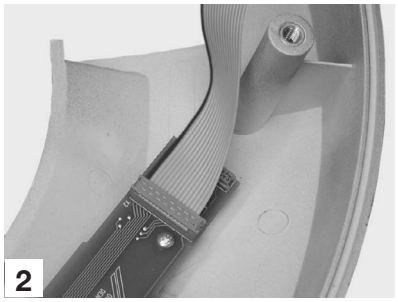
- Mount the cover of the transport arc.

The flat cable harness must be positioned in a way that it does not get pinched and cannot interfere with the function of the transport arc.

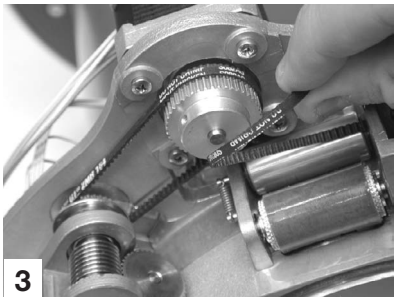
Replacing the drive belt set



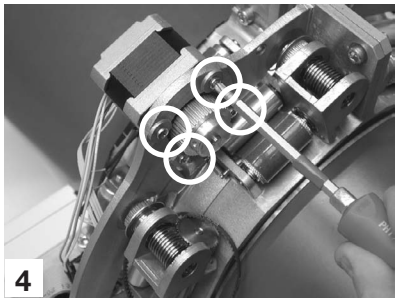
- Remove the hexagonal socket screws (right, left and below) and take off the cover of the transport arc.



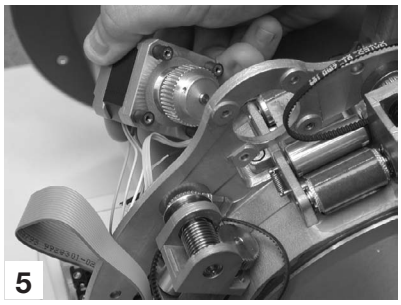
- Mark the actual position of the connectors with a felt tip marker or similar before removing them.
- Remove the connectors from the PCB (mother board) located in the cover of the transport arc.



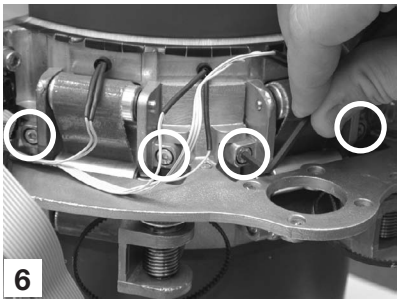
- Slide the belt from the toothed wheel of the stepping motor.



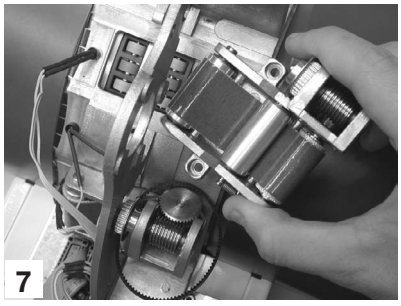
- Remove the cross-headed screws from the motor.



- Remove the motor and put it aside. **Do not let the motor hang from any cable.**



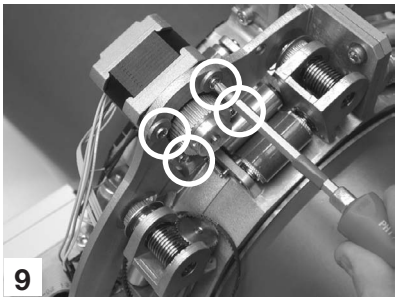
- Remove the hexagonal socket screws from the belt drive.



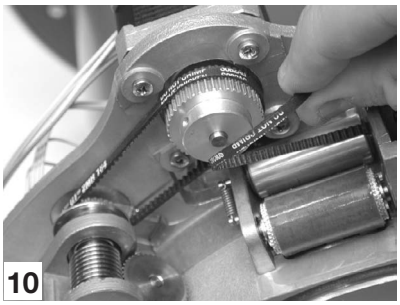
- Remove the belt drive.
- Remove the old belt.
- Place the toothed belts onto the toothed wheels of the belt drive.
- Mount the belt drive to the transport arc.



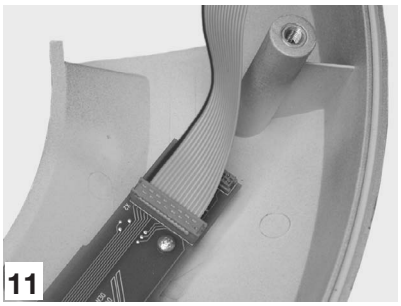
- Set the motor into the counter-bores.
- The motor connection cable must point in the direction of the transport arc connections.



- Mount the motor using four cross-headed screws and the toothed lock washer onto the transport arc.


10

- Slide the belt back over the toothed wheels of the stepping motors.
  Observe the arrangement of the belts!


11

- Replace the connectors from the PCB (mother board) located in the cover of the transport arc.

Check the correct position! The red cable must point in the direction of the inside of the cover.


12

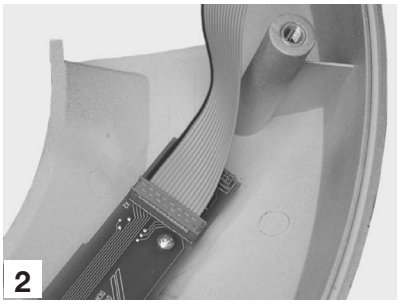
- Mount the cover of the transport arc.

The flat cable harness must be positioned in a way that it does not get pinched and cannot interfere with the function of the transport arc.

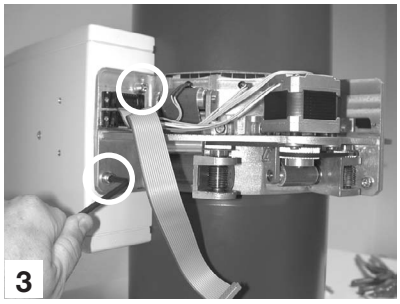
Replacing the transport arc



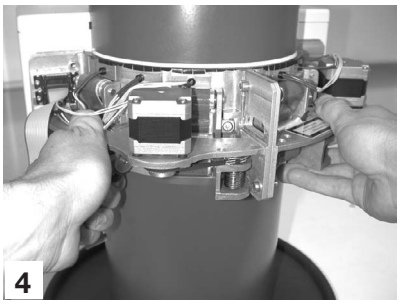
- Remove the hexagonal socket screws (right, left and below) and take off the cover of the transport arc.



- Mark the actual position of the connectors with a felt tip marker or similar before removing them.
- Remove the connectors from the PCB (mother board) located in the cover of the transport arc.



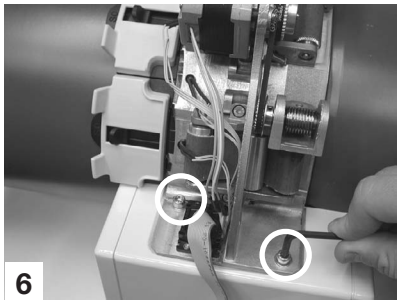
- Remove the hexagonal socket screws (right and left) of the transport arc.



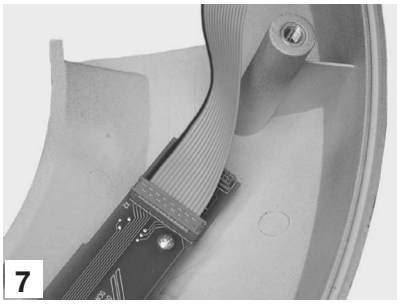
- Remove the transport arc by pulling gently.



- In order that no loose hair from the light brushes gets trapped when replacing the transport arc, a firm foil (e.g. intraoral film) should be inserted into the gap between the light protection brushes and the transport arc while mounting.



- To mount the transport arc, place 4 film cassettes into the slots until they engage and then tighten the 4 hexagonal socket screws.
- Remove film and film cassettes.



- Replace the connectors from the PCB (mother board) located in the cover of the transport arc.

Check the correct position! The red cable must point in the direction of the inside of the cover.



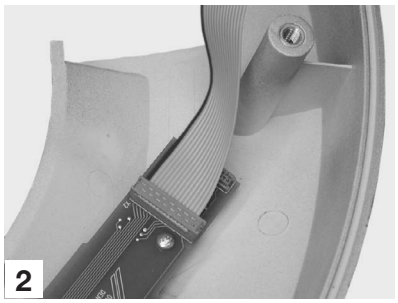
- Mount the cover of the transport arc.

The flat cable harness must be positioned in a way that it does not get pinched and cannot interfere with the function of the transport arc.

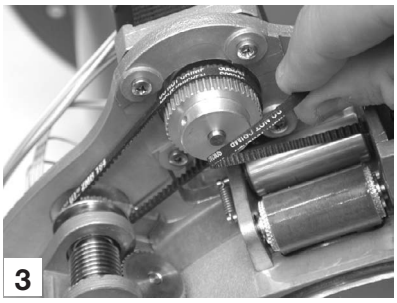
Replacing the rubber pads set



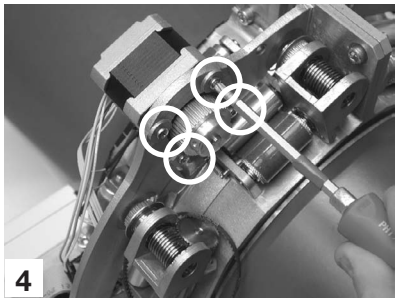
- Remove the hexagonal socket screws (right, left and below) and take off the cover of the transport arc.



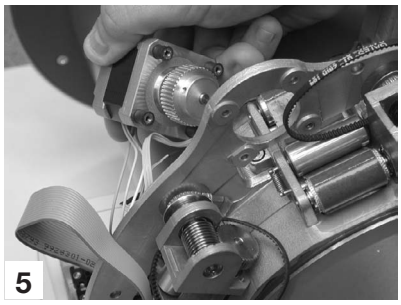
- Mark the actual position of the connectors with a felt tip marker or similar before removing them.
- Remove the connectors from the PCB (mother board) located in the cover of the transport arc.



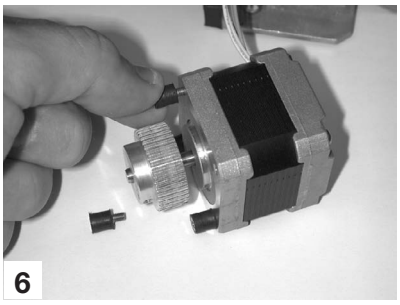
- Slide the belt from the toothed wheel of the stepping motor.



- Remove the cross-headed screws from the motor.



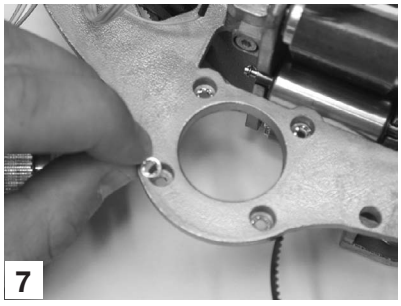
- Remove the motor and put it aside. **Do not let the motor hang from any cable.**



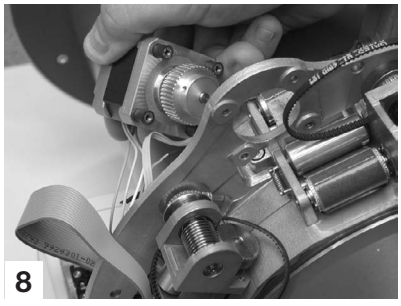
- Unscrew the old rubber buffer from the motor.

One of the rubber mountings has been additionally fitted with a washer. Mark the position of this rubber and mount it in the same position when reassembling.

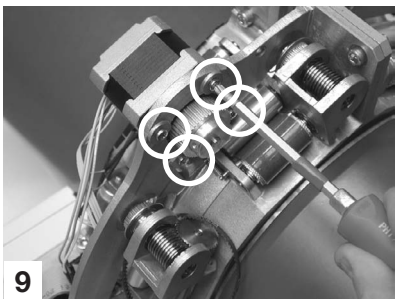
- Then screw in the new rubber pads into the motor and tighten them manually.



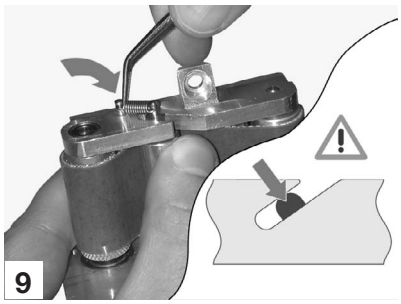
- Lay one toothed gog in each of the 4 counterbores



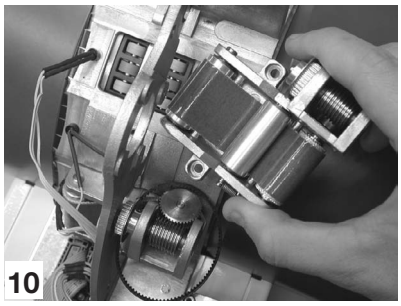
- Remove the hexagonal socket screws (right, left and below) and take off the cover of the transport arc.



- Mount the motor using four cross-headed screws and the toothed lock washer onto the transport arc.



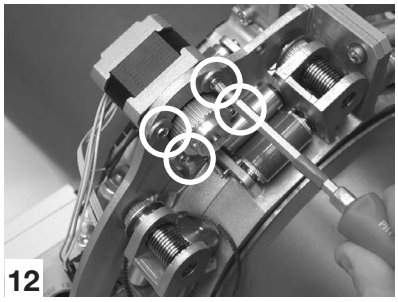
- Place the drag roller into the housing
- Mount the spring to the drag roller and hang into its holder
- Check that the drag roller functions correctly



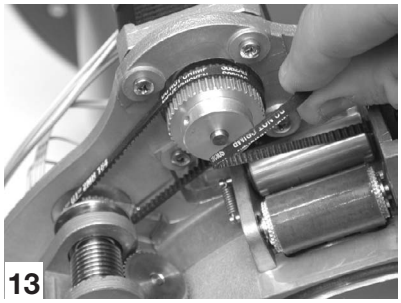
- Place the toothed belts onto the toothed wheels of the new belt drive.
- Mount the new belt drive to the transport arc.



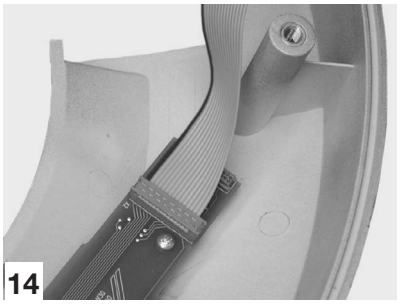
- Set the motor into the counter-bores.
- The motor connection cable must point in the direction of the transport arc connections.



- Mount the motor using four cross-headed screws and the toothed lock washer onto the transport arc.



- Slide the belt back over the toothed wheels of the stepping motors.
  Observe the arrangement of the belts!



- Replace the connectors from the PCB (mother board) located in the cover of the transport arc.

Check the correct position! The red cable must point in the direction of the inside of the cover.



- Mount the cover of the transport arc.

The flat cable harness must be positioned in a way that it does not get pinched and cannot interfere with the function of the transport arc.

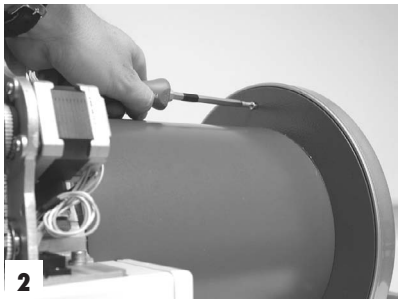
Replacing light protection brush set

for A) VistaScan B) VistaScan Plus

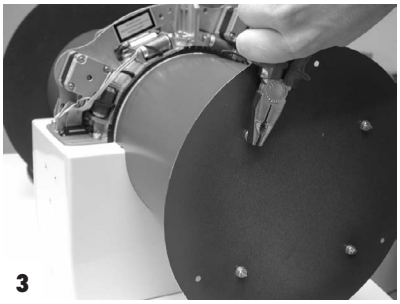
A) VistaScan



- Remove the hexagonal socket screws (right, left and below) and take off the cover of the transport arc.
- Remove the connectors from the PCB (mother board) located in the cover of the transport arc.



- Lay the VistaScan on its rear side.
- Unscrew the screws of the upper cover.
- Remove the upper cover.



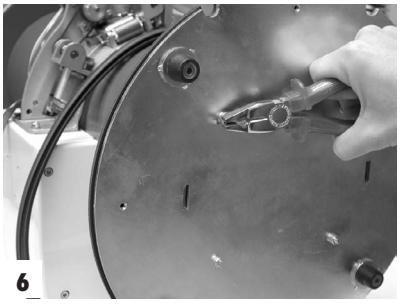
- Loosen the special screws using pliers and unscrew them.
- Remove the sheet.



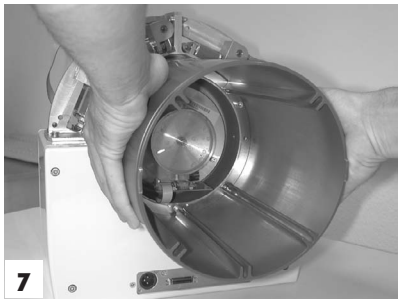
- Remove the upper tube by slightly moving it.



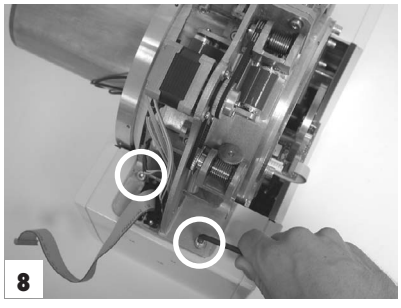
- Unscrew the hexagonal socket screws on the bottom of the cover.
- Remove the cover and the collecting mat.



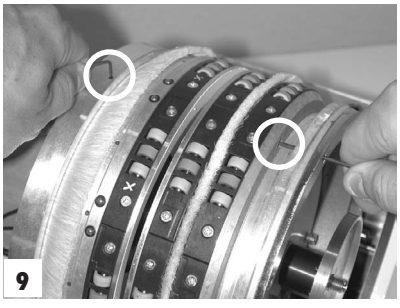
- Loosen the special screws using pliers and unscrew them.
- Remove the sheet.



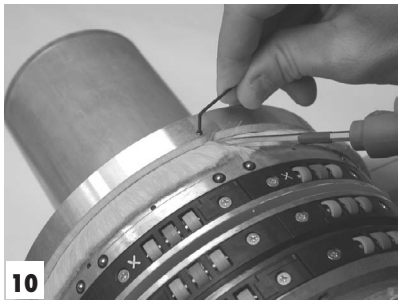
- Remove the lower tube by slightly moving it.



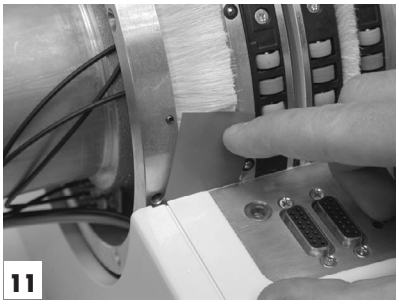
- Remove the hexagonal socket screws (right and left) of the transport arc.
- Remove the transport arc by pulling gently.



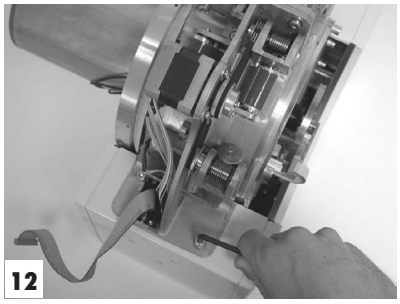
- Loosen the set screws on the upper and lower light protection brush. **Do not unscrew them completely!**



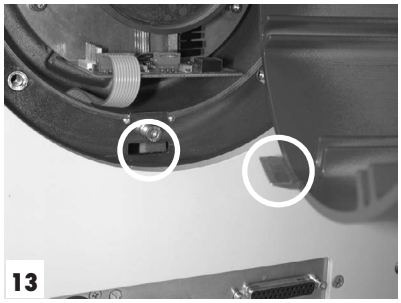
- Remove the upper and lower light protection brush.
- Insert new light protection brushes.
- Push in the light protection brushes with a flat screwdriver and tighten the set screws.



- Insert a firm foil (e.g. intraoral foil) on both sides into the gap between the light protection brush and the housing.



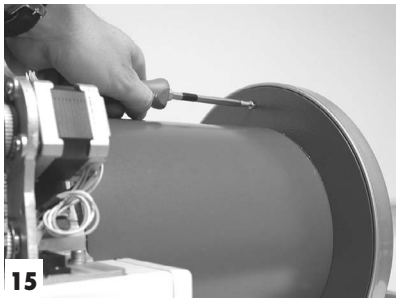
- Place the transport arc onto the fixing pins using a light movement.
- Tighten the hexagonal socket screws.
- Remove the firm foil between the light protection brush and the housing.



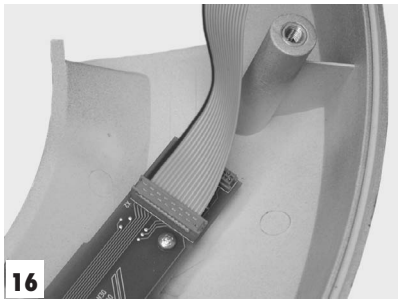
- Fit the lower tube.
  The nose on the tube serves for fixating the position and has to be mounted into the aperture of the housing.



- Fix the collecting mat and the sheet on the lower tube.
- Tighten the special screws using pliers.
- Fit the lower cover.
- Tighten the screws.



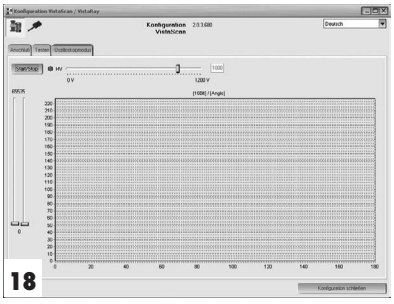
- Fit the upper tube and the sheet.
- Tighten the special screws using pliers.
- Fit the upper cover.
- Tighten the screws.



- Replace the connectors from the PCB (mother board) located in the cover of the transport arc. **Make sure that the position is correct.**



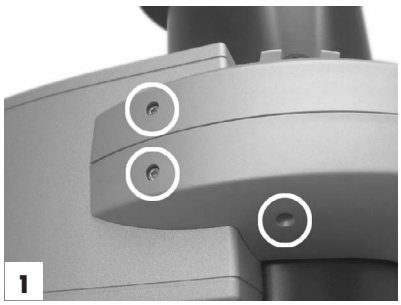
- Fit the cover.
- Insert the foil cassettes in all four slots.
- Tighten the screws of the cover.



- Check in the oscilloscope mode of the VistaScanConfig that no light emerges from the light protection brushes.

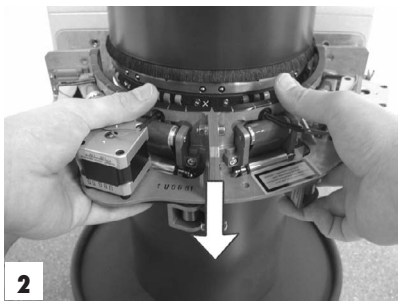
When the foil cassettes are inserted (slider down), the measured value has to be inferior than 500 with an amplification HV=1000.

B) VistaScan Plus



Unplug VistaScan from the mains before opening it!

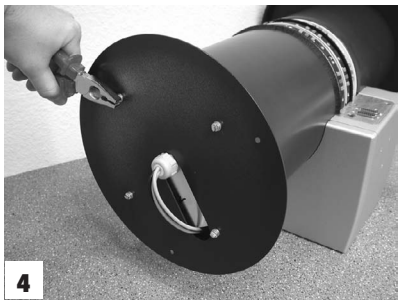
- Remove the hexagonal socket screws (right, left and below) and take off the cover of the transport arc.
- Remove the connectors from the PCB (mother board) located in the cover of the transport arc.



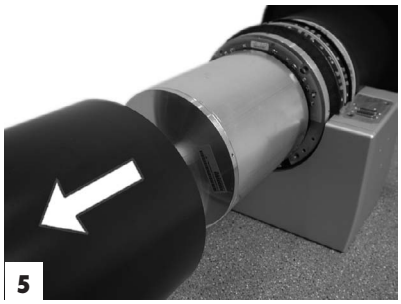
- Remove the hexagonal socket screws (right and left) of the transport arc.
- Remove the transport arc by pulling gently.



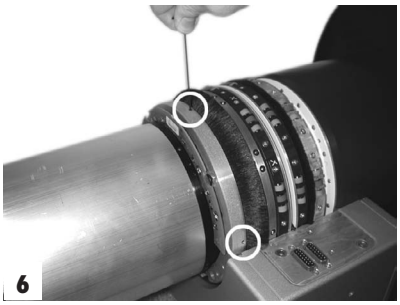
- Lay the VistaScan on its rear side.
- Unscrew the screws of the upper cover.
- Remove the upper cover.



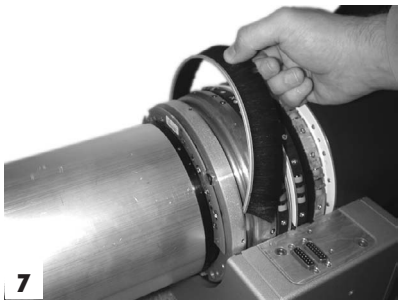
- Loosen the special screws using pliers and unscrew them.
- Remove the sheet.



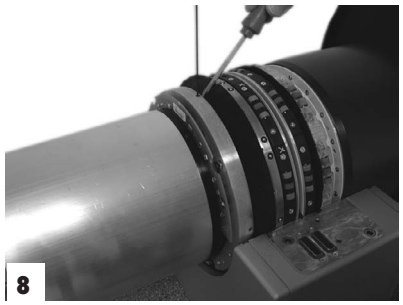
- Remove the upper tube by slightly moving it.



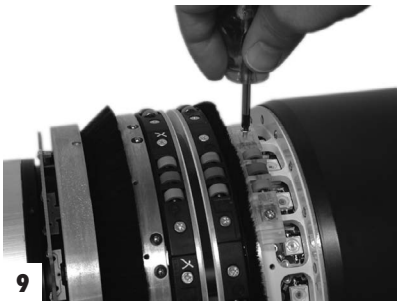
- Loosen the set screws on the upper light protection brush. **Do not unscrew them completely!**



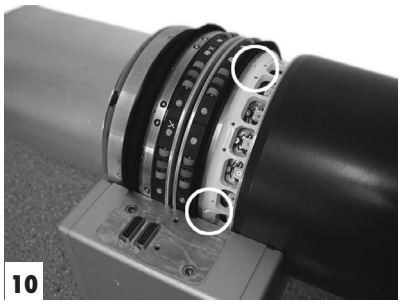
- Remove the upper light protection brush.
- Insert a new light protection brush.



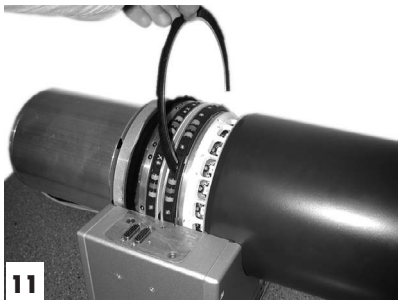
- Push in the light protection brushes with a flat screwdriver and tighten the set screws.



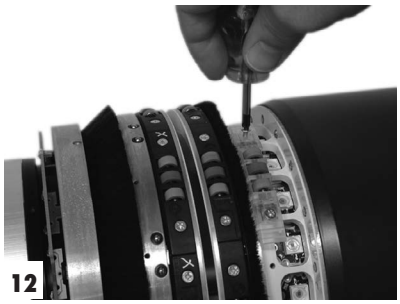
- Mark the position of the transparent capstan idler modules.
- Remove all transparent capstan idler modules.



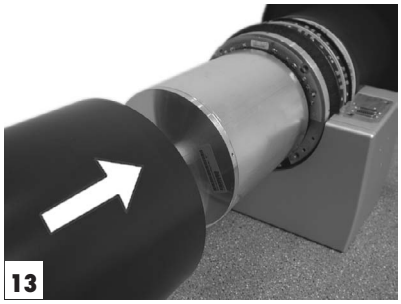
- Loosen the set screws of the lower light protection brush.**Do not remove them completely!**



- Pull out the lower light protection brush.
- Insert a new light protection brush.
- Push in the lower light protection brush with a flat screwdriver and tighten the set screws.



- Mount the transparent capstan idler modules.
  Make sure that the position of the capstan idler modules is correct. (The open side of the capstan idler modules has to show downwards).
  Make sure that no hair of the light protection brush is squeezed during mounting.



- Fit the upper tube.



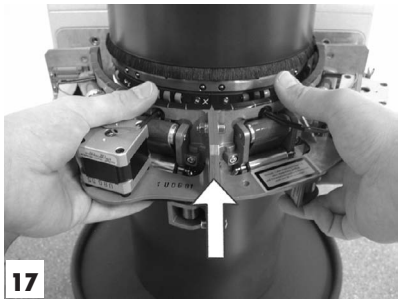
- Fit the sheet.
- Tighten the special screws using pliers.



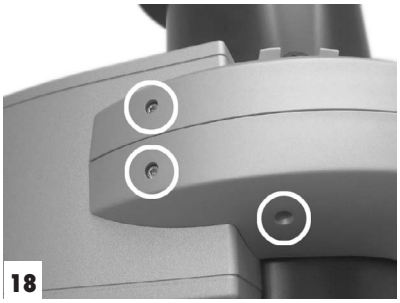
- Fit the upper cover.
- Tighten the screws.



- Put up VistaScan.
- Insert a firm foil (e.g. intraoral foil) on both sides into the gap between the light protection brush and the housing.



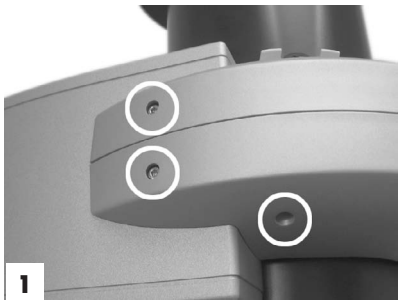
- Place the transport arc onto the fixing pins using a light movement.
- Tighten the hexagonal socket screws.
- Remove the firm foil between the light protection brush and the housing.



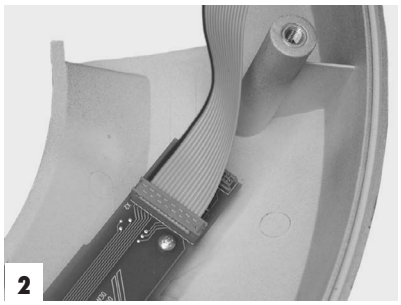
- Replace the connectors from the PCB (mother board) located in the cover of the transport arc. **Make sure that the position is correct!**
- Insert the foil cassettes in all four slots.
- Tighten the screws of the cover.
- Check in the oscilloscope mode of the VistaScanConfig that no light emerges from the light protection brushes.

When the foil cassettes are inserted (slider down), the measured value has to be inferior than 500 with an amplification HV=1000.

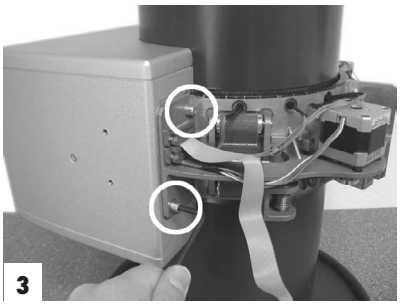
Replacing capstan idler module set



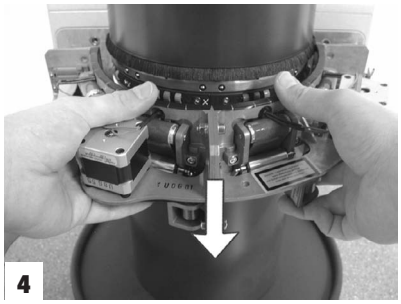
- Remove the hexagonal socket screws (right, left and below) and take off the cover of the transport arc.



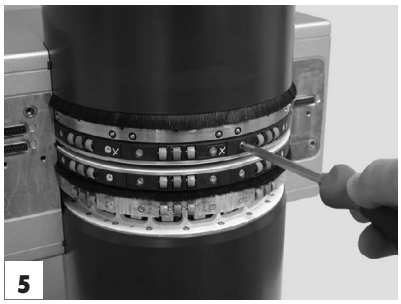
- Remove the connectors from the PCB (mother board) located in the cover of the transport arc.



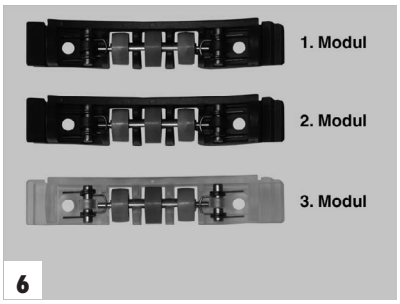
- Remove the hexagonal socket screws (right and left) of the transport arc.



- Remove the transport arc by pulling gently.

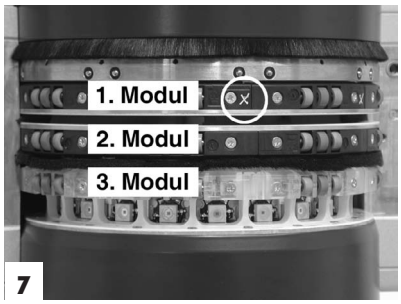


- Remove the cross-headed screws from the roller modules and replace the roller modules.



There are different springs with varying tensions in the roller modules.

1st capstan idler module
= silvery spring
2nd capstan idler module
= red spring
3rd capstan idler module
= red spring and transparent

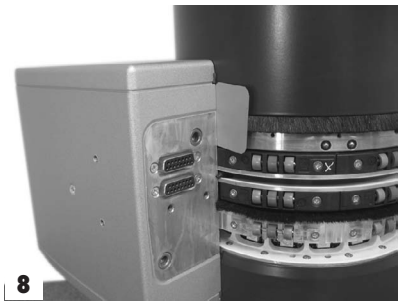


7

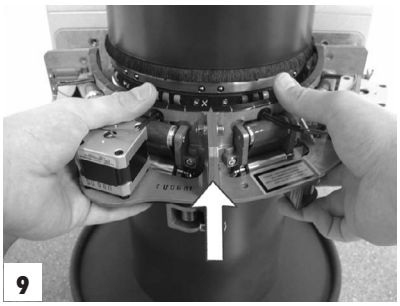
- Mount the new capstan idler modules.

  Make sure that no hair of the light protection brush is squeezed during mounting.

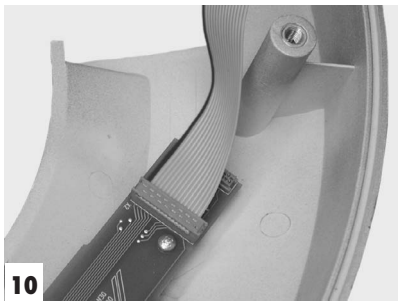
The first module is marked with an "X". It has to be mounted under the upper light protection brush. The 3rd module is transparent. It has to be mounted under the lower light protection brush. Check the elasticity of the roller springs.


8

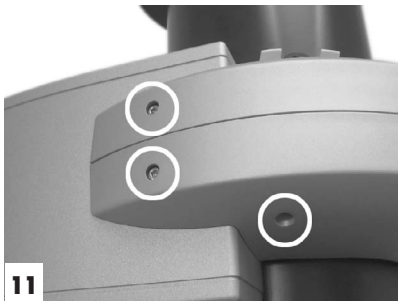
- Insert a firm foil (e.g. intraoral foil) on both sides into the gap between the light protection brush and the housing.


9

- Place the transport arc onto the fixing pins using a light movement.
- Tighten the hexagonal socket screws.
- Remove the firm foil between the light protection brush and the housing.

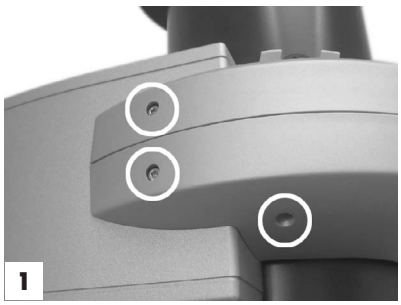

10

- Replace the connectors from the PCB (mother board) located in the cover of the transport arc. **Make sure that the position is correct.**

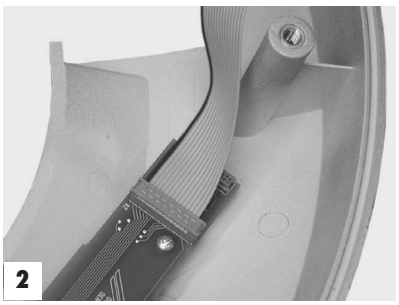

11

- Fit the cover.
- Insert the foil cassettes in all four slots.
- Tighten the screws of the cover.

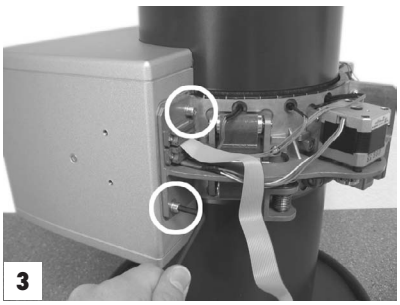
Replacing the erasure unit



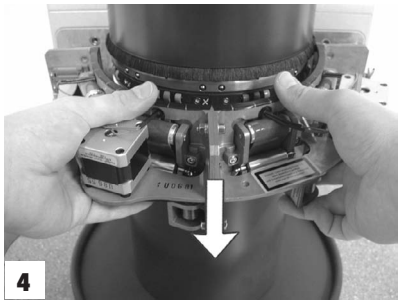
- Remove the hexagonal socket screws (right, left and below) and take off the cover of the transport arc.



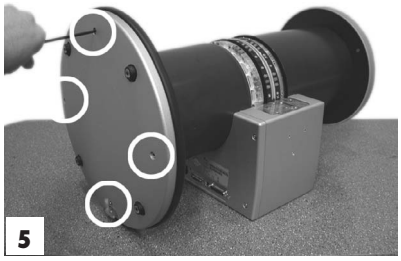
- Remove the connectors from the PCB (mother board) located in the cover of the transport arc.



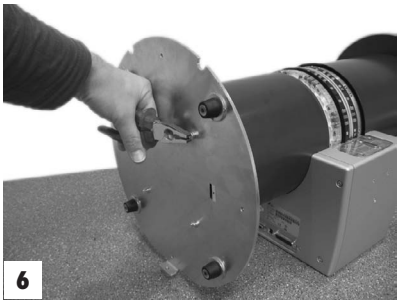
- Remove the hexagonal socket screws (right and left) of the transport arc.



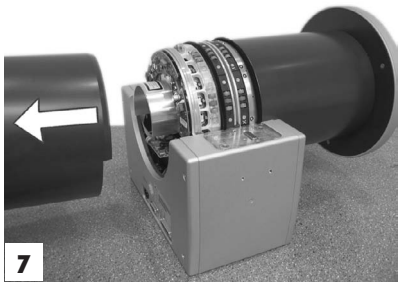
- Remove the transport arc by pulling gently.



- Lay the VistaScan on its rear side.
- Unscrew the hexagonal socket screws on the bottom of the cover.
- Remove the cover and the collecting mat.



- Loosen the special screws using pliers and unscrew them.
- Remove the sheet.



- Remove the lower tube by slightly moving it.



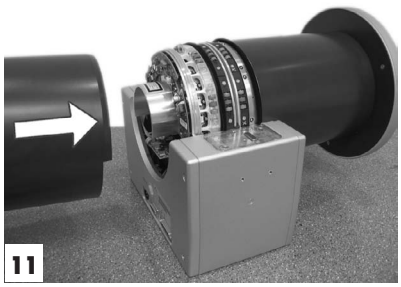
- Mark the position of the connector with a pencil
- Pull out the connector.



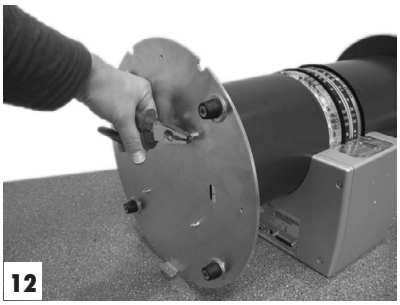
- Unscrew the hexagon socket screws of the erasure unit and take out the erasure unit carefully.
- Insert a new erasure unit carefully.
- Tighten the hexagonal socket screws.



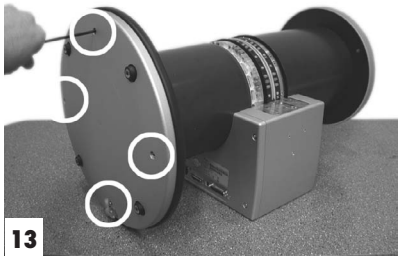
- Fit a new connector. **Make sure that the position is correct!**



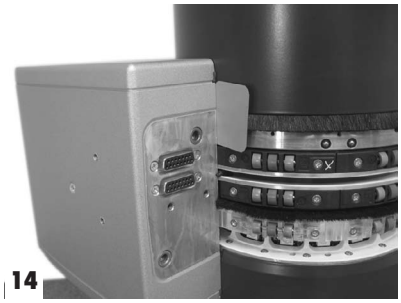
- Fit the tube.



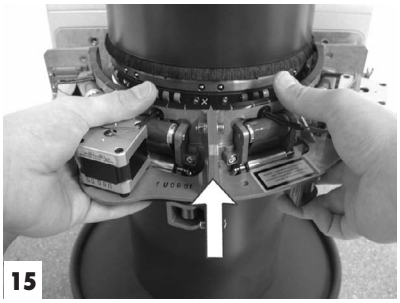
- Fit the sheet.
- Tighten the special screws using pliers.



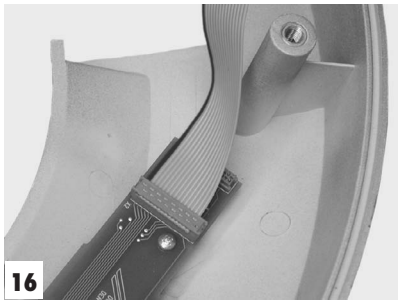
- Fit the cover.
- Tighten the hexagonal socket screws.
- Insert the collecting mat.



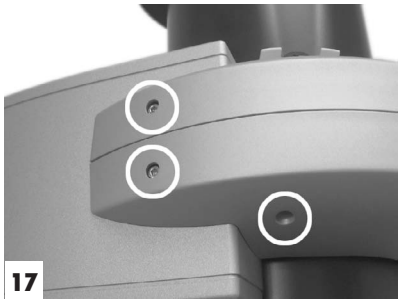
- Put up VistaScan.
- Insert a firm foil (e.g. intraoral foil) on both sides into the gap between the light protection brush and the housing.



- Place the transport arc onto the fixing pins using a light movement.
- Tighten the hexagonal socket screws.
- Remove the firm foil between the light protection brush and the housing.



- Replace the connectors from the PCB (mother board) located in the cover of the transport arc. Make sure that the position is correct!



- Fit the cover.
- Insert the foil cassettes in all four slots.
- Tighten the screws of the cover.

VistaScan Mini / VistaScan Mini Plus

Connection



Before initial start-up compare the operating voltage of 24 V DC and the supply voltage 100 V - 240 V are consistent with the information on the model identification plate.
The connection ports are in the recesses on the rear side of the appliance.

- Remove any possible connected country adapter.
- Attach the suitable country adapter.
- Remove the cover on the rear side of the VistaScan Mini.
- Plug in the power supply into the socket of VistaScan Mini.
- Place the power cable into the power outlet socket.
- Connect the VistaScan Mini using the network cable or the USB cable supplied to the network or to the computer being operated. Where the VistaScan Mini is being connected to a USB and to a network, then the network connection has priority status.
- Place the cover back into position.

When operating the unit then the cover on the rear side must be mounted correctly.

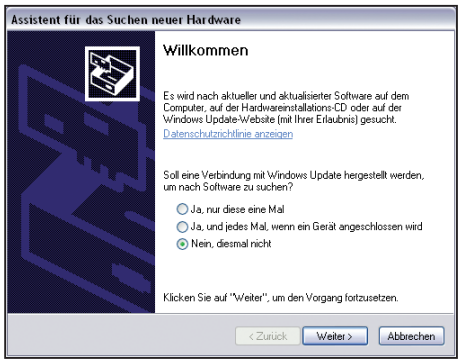
Network information for VistaScan Mini Plus

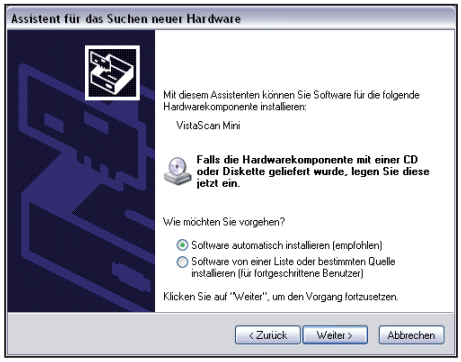
For trouble-free communication in the network, the following Firewall ports are required by VistaScan Perio Net:

- Port **2006** TCP (data communication)
- Port **45123** UDP (VistaNetConfig)
- Port **45124** UDP (VistaNetConfig)
- Port **514** UDP (Logging)

When switching from the USB connection to network connection, or vice versa, then the VistaScan Mini must be completely switched off and then restarted again.

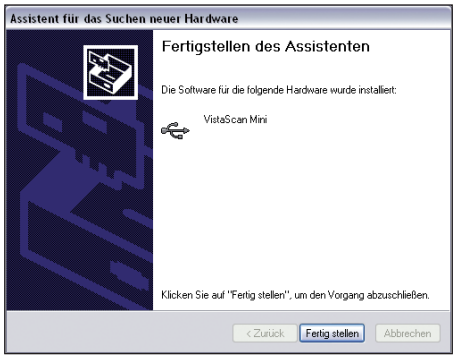
Installation











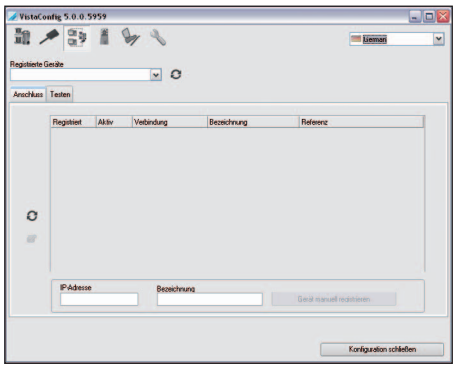
For network connection

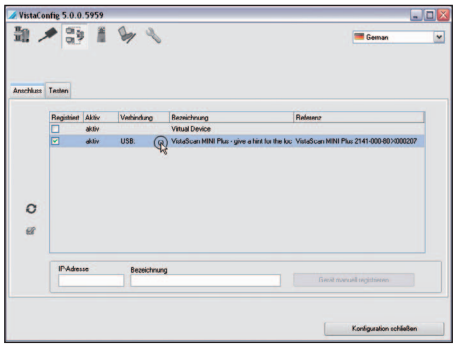
- Switch on the network unit (Router, PC, Switch).
- Check that TCP Port 2006 and UDP Port 514 have been allowed access under the Firewall. This check is not necessary with a Windows-Firewall, as this will be requested during the driver installation.

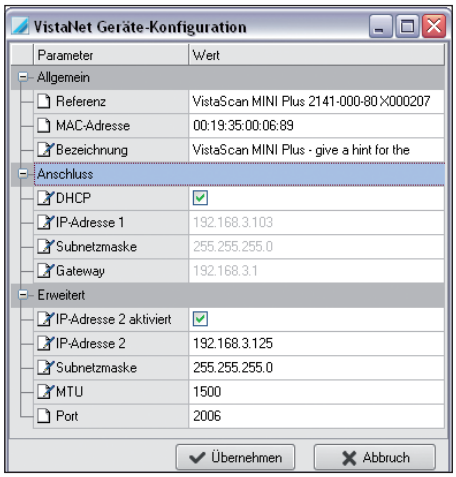
With USB connection

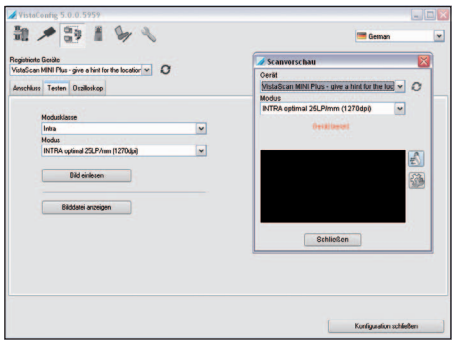
VistaScan Mini and VistaNetConfig must not be allowed to be blocked by any Firewall. If necessary, TCP Port 2006 and UDP Port 514 must be enabled.

- Place the DVD-ROM (e.g. DBSWIN from version 5.0) supplied into the appropriate drive.
- Close the autostart menu.
- Switch on the VistaScan Mini.
- Once the USB-appliance has automatically been recognised and „New hardware Assistant“ appears, choose „No, not this time“.
- Click „Continue“ .
- Choose „Automatically install software (recommended)“.
- Click „Continue“ .
- When Windows-Logo-Test appears, click „Continue installation“.
- Complete installation of VistaScan Mini with „Finish“.









Configuration

Configuration is carried out under both connection alternatives using **VistaNetConfig**. Installation is automatic under DBSWIN or VistaEasy.

- **Start „VistaNetConfig“** (Start/All programs/Dürr Dental/VistaConfig/VistaNetConfig).
- Click „Update“.
- The appliance which has been connected can now be registered by placing a tick/check in the box „Register“.

Where several VistaScan Mini units are connected then these can all be registered.

Connection to a network

- A double click on the line for appliances opens the „VistaNet appliance configuration“.

The „VistaNet appliance unit“ can be used to change the name of the appliance or to manually enter an IP address and information can be called up.
We recommend assigning only fixed IP addresses.

To assign a permanent IP address:

- DHCP must be deactivated.
- Enter IP address, subnet mask and gateway manually.
- Use „Accept“ to store changes.

By pressing and holding the Reset key for 15 - 20 seconds during the switch on phase all network settings of the appliance can be returned to the factory settings. VistaScan Mini Plus will confirm reset by displaying „Factory Reset“.

USB connection

- Click „Bearbeiten“ (Edit). The „VistaNet appliance configuration“ will open.

Using „VistaNet appliance configuration“ the appliance name can be changed and information can be called up.

Tips for Operators and Technicians

Trouble-shooting

Problem	Possible cause	Solution
1. VistaScan Mini does not switch on	• No supply voltage	• Check the mains cable and all connections • Check the main fuse box to building • Check the power unit, whether green LED lights
	• On/Off switch defective	• Inform your Service Technician
2. VistaScan Mini switches off after short period	• Mains cable or one of the plugs has not been inserted correctly	• Check the mains cable and all connections
	• Hardware defective	• Inform your Service Technician
	• Mains supply voltage too low	• Check the supply voltage
3. Status or operation LED does not light up	• LED defective	• Inform your Service Technician
4. Loud noises during operation after switching on	• If the noises persist longer than 30 seconds, then the beam baffle is defective	• Inform your Service Technician
5. Image processing software does not recognise VistaScan Mini	• VistaScan Mini not switched on	• Switch on the VistaScan Mini
	• Connection cable between VistaScan Mini and PC loose	• Check USB cable/network cable
	• PC does not recognise connection to VistaScan Mini	• USB-driver not installed or inactive • Check USB cable/network cable • Check the IP addresses and subnet masks
	• Hardware fault	• Inform your Service Technician
6. Appliance does not react	• VistaScan Mini did not complete start procedure	• Appliance needs 20-30 seconds to completely switch on. Repeat after sufficient time.
	• VistaScan Mini is blocked by the firewall.	• Set up ports for the appliance in Firewall.
7. X-ray exposure does not appear on the monitor after scanning	• Image plate has been put in the light protection sleeve upside down and the inactive side scanned	• Rescan the image plate as quickly as possible
	• Image data on the image plate has been erased, e.g. by ambient light	• Image data on the plate must be scanned as quickly as possible after extraction
	• Problem with the hardware	• Inform your Service Technician
	• X-ray device is faulty	• Inform your Service Technician
	• No image information on the image plate	• Expose the image plate
8. X-ray too dark / light	• Incorrect brightness/ contrast setting in the software	• Set the brightness of the X-ray image using the software
	• Exposed image plate was subjected to ambient light	• Put the image plate in the light protection sleeve on the insertion slot.
	• X-ray dosis too low	• Check X-ray parameters

Problem	Possible cause	Solution
9 .Image presented as mirror image	• Image plate incorrectly placed in light protection cover	• Place image plate correctly. The black side (printed) of the image plate must be visible through the transparent side of the light protection cover.
	• The image plate was placed in light protection sleeve or in the mouth of the patient the wrong way round	• Place and align the image plate correctly
10 . Ghost images and shadows on the X-ray exposure	• Image data on the image plate has not been sufficiently erased	• Check erasure parameters • Inform your Service Technician • Replace the erasure unit
11 . Image is very faint on the scanning window software cannot piece the data together to form a complete picture	• The X-ray dose used for the image plate was too low	• Inform your Service Technician • Replace the erasure unit
	• Amplification level too low (HV-value)	• Increase the amplification (HV-value)
	• Unsuitable scanning mode used	• Choose a suitable scanning mode
	• Threshold setting too high	• Reduce the settings
12. VistaScan Mini does not appear in the selection list in VistaScanConfig	• Appliance is set up behind a router.	• Configure IP address, without router connected, on VistaScan Mini Net. • Connect the router again. • Enter IP address into VistaScanConfig manually and register appliance.
13. VistaScan Mini does not appear in the selection list in VistaScanConfig, connection not possible however	• Subnet mask of PC and VistaScan Mini do not match	• Check the subnet masks and adapt as required
14. Error message appears on starting X-ray module in DBSWIN	• VistaScan Mini Net conflicting with another device	• In "VistaScanConfig", set the VistaScan/ VistaScan Mini to "Demo without scanner".
15 . X-ray exposure has stripes on image	• Image plate has been exposed	• Only use the image plate within 24 hours of data erasure.
	• Part of the image plate was exposed to light during handling	• Do not expose used image plates to light. Exposure and the scanning of the image data should be carried out within half an hour.
	• Image plate was dirty or scratched	• Clean the image plate by wiping carefully using a soft cloth and special cleaning agent taken from the cleaning set. All image plates with scratches must be replaced immediately
16. Warning message: "Too much ambient light"	• VistaScan Mini is exposed to too much light	• Darken the room • Turn VistaScan Mini so that the light does not fall directly on the insertion slot
17 . Pale stripes in scanning window	• Too much stray light entered during scanning	• Darken the room • Turn VistaScan Mini so that the light does not fall directly on the insertion slot
18 . Blue LED is flashing	• No connection between VistaScan Mini and PC	• Activate VistaScan Mini via the software • USB-driver not installed or inactive • Check data cable
	• Data storage in VistaScan Mini is full	• Use software to set up state of readiness. The image data are automatically transmitted from VistaScan Mini to the software
19. Error message "E2490"	• Device connection was interrupted while the software still wanted to communicate with VistaScan Mini.	

Error messages on the display

Problem	Possible cause	Solution
1. Error code -1010 on display.	• Appliance temperature too high	• Allow the appliance to cool • Inform your Service Technician
2. Error code -1022 on display.	• Assembly has not been initialised	• Problem in software, update software if necessary • Inform your Service Technician
3. Error code -1100 on display.	• Scan process has exceeded allotted time	• Inform your Service Technician • Check the belt drive, blockage during scanning (image plate stuck in unit)
4. Error code -1104 on display.	• Problem with erasure unit	• Inform your Service Technician • Replace the erasure unit
5. Error code -1116 on display.	• Supply drive blocked	• Rectify blockage • Inform your Service Technician
6. Error code -1117 on display.	• Supply positioning error	• Inform your Service Technician • Check supply (ease of movement, gears)
7. Error code -1118 on display.	• Housing cover open	• Close housing cover • Actuate cleaning button
8. Error code -1121 on display.	• Supply slider missing	• Install slider
9. Error code -1153 on display.	• Problem in sub-assembly	• Switch the appliance off and on again
10. Error code -1154 on display.	• Problem with internal data communication	• Switch the appliance off and on again
11. Error code -1160 on display.	• Final RPM for radiation deflector not achieved	• Inform your Service Technician • Replace the radiation deflector sub-assembly if problem arises frequently
12. Error code -1170 on display.	• SOL-Sensor Timeout	• Switch appliance off and on, possible fault with laser or SOL-sensor • Inform your Service Technician

Replacement parts list & service work

After 3 years at the latest, the entire appliance should be serviced by a technician that is trained and certified by Dürr Dental or our customer service.

Item	Beschreibung	Description	No.
10	Front mit Bedienteil	front with operating element	2141-110-00E
15	Front mit Bedienteil und Display	front with operating element and display	2141-110-50E
20	Klemmteil Set	self-locking set	2141-995-50
30	Abstreiflippen Set	stripping lip set	2141-995-00
40	Zuführmodul	supply module	2141-700-00E
50	Blende	bezel	2141-100-06
60	Löscheinheit	erasure unit	2141-410-00E
70	Rollenhalter	roll holder	2141-210-00E
80	Transportband mit Federn	conveyor belt with springs	2141-993-00
90	Bandantrieb	belt drive	2141-300-00E
100	Folienauffang	exit tray	2141-100-07

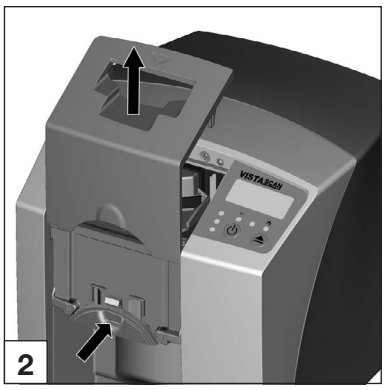
Installation instructions VistaScan Mini/VistaScan Mini Plus

Replacement of Front Panel - with Operator Panel and with / without Display Panel

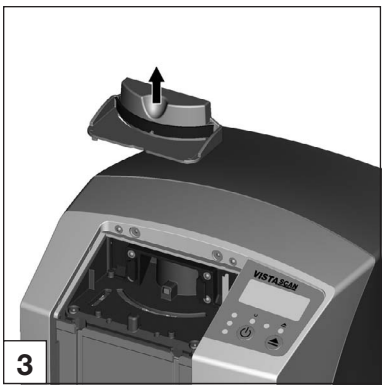
Front with operator panel.....2141-110-00E
Front with operator panel and display panel.....2141-110-50E



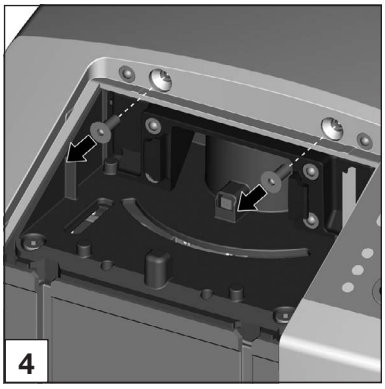
- Remove the film tray



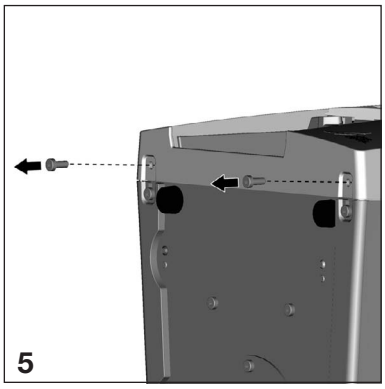
- Press the release button element and simultaneously lift the cover up and away from the unit.



- Lift the locking plate up and off as shown.



- Remove two countersunk screws with the SW 2.5 Allen key.

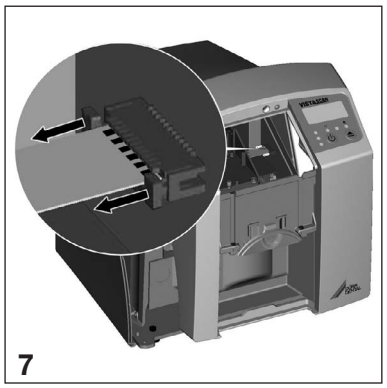


- Remove the socket-head screws underneath with the SW 2.5 Allen key.



- Lift the front away from the device very carefully.

The front is still connected to the device with a ribbon cable. See next step to remove the ribbon cable.



- Unlatch the “Display” socket on the main plate.

The socket is located either at the front or the back of the device depending on the main plate version. Where the socket device is located to the back of the unit then additionally the rear cover must also be removed (four SW 2.5 cylinder screws on the underside, two SW 2.5 counter-sunk screws on the rear).

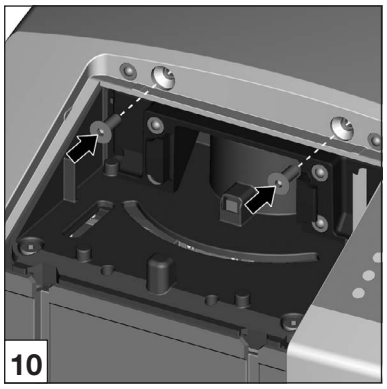


- Note the contacts of the ribbon cable.
- Pull the ribbon cable from the socket.
- Remove the front.

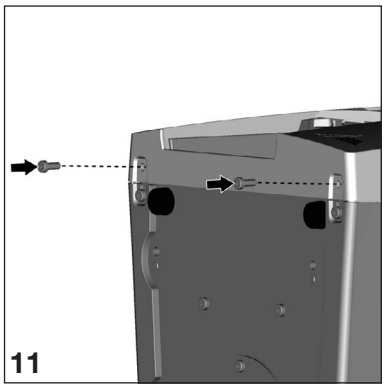


- Place the new front piece in position.

The ribbon cable must be placed in such a way that it won’t be crushed or damaged preventing it from working correctly.



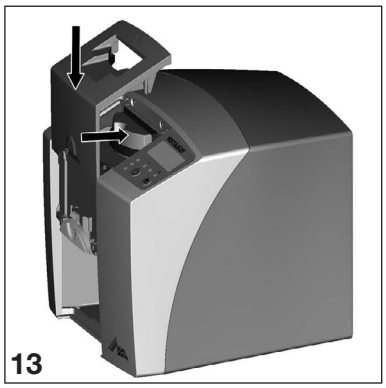
- Insert two countersunk screws with the SW 2.5 Allen key.



- Insert two cylinder screws on the underside with a SW 2.5 Allen key.



- Insert the locking plate.


13

- Click the locking plate into place in the device and put the cover back into place at the same time.


14

- Put back the film tray.

Test 1:

- Switch unit on.
- Monitor the initialisation sequence (text is displayed on panel clearly, locking plate moves, drive starts, erasure unit lit).

There must be no unusual noises and nothing should appear on the display which are not expected from the unit.

Test 2:

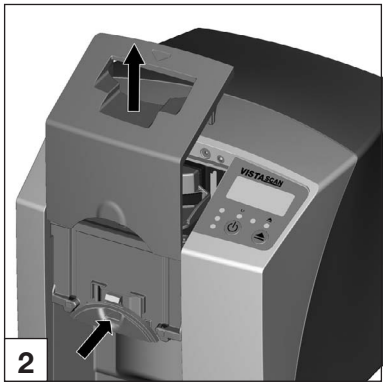
- Scan an evenly homogenously exposed image plate.
- Check the X-ray for signs of artefacts or irregularities.

There must be no signs of artefacts or irregularities.

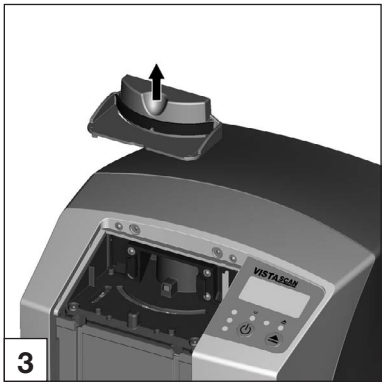
Replacement of complete belt drive 2141-300-00E



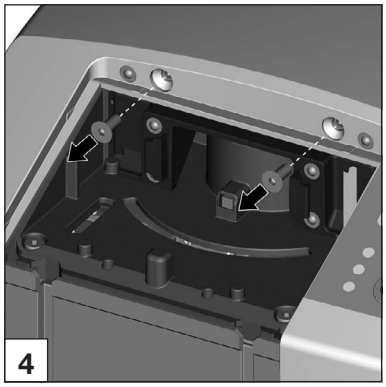
- Remove the film tray.



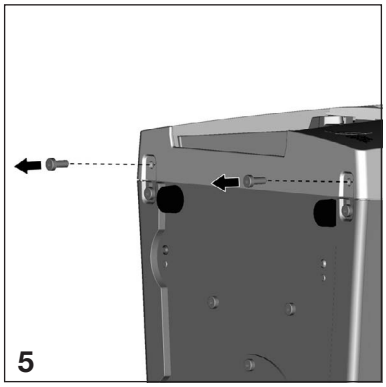
- Press the unlocking button while at the same time lifting the cover up.



- Take out the retaining plate.



- Remove two countersunk screws with the SW 2.5 Allen key.

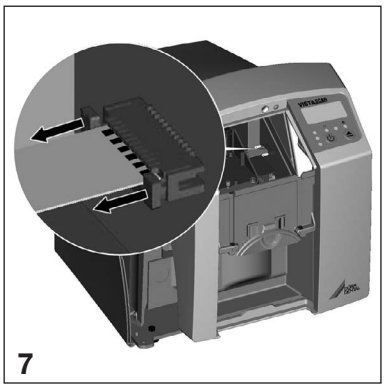


- Remove the socket-head screws underneath with the SW 2.5 Allen key.



- Lift the front away from the device very carefully.

The front is still connected to the device with a ribbon cable. See next step to remove the ribbon cable.

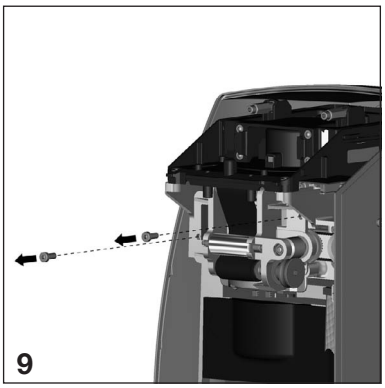


- Unlatch the “Display” socket on the main plate.

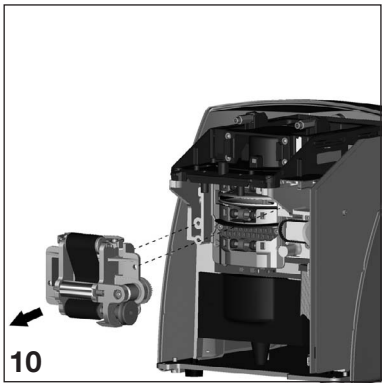
The socket is located either at the front or the back of the device depending on the main plate version. If the socket is at the rear of the device, the rear cover must also be removed (four SW 2.5 cylinder screws on the underside; two SW 2.5 counter-sunk screws on the rear).



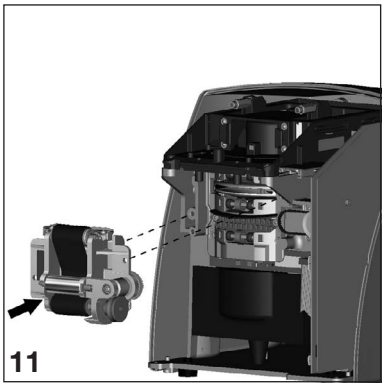
- Note the contacts of the ribbon cable.
- Pull the ribbon cable from the socket.
- Remove the front.



- Remove the socket-head screws from belt drive with the SW 2.5 Allen key.

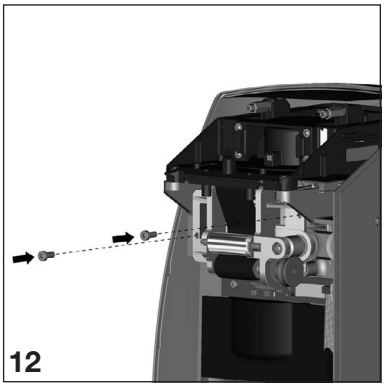


- Remove the belt drive towards the front.



- Place belt drive in position.

The drive belt must be pulled over the belt coupling of the motor and the belt drive when placed in position..



- Fix the belt drive in place using two socket-head screws and the SW 2.5 Allen key.



- Put the front in place.
- Put the ribbon cable into the socket.

Check the position of the contacts!

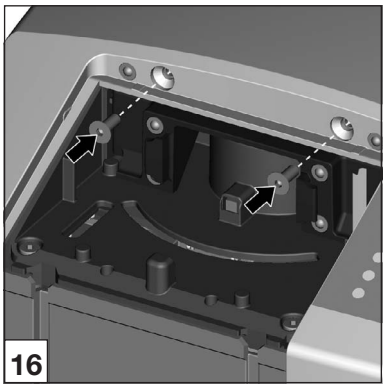


- Latch the socket.

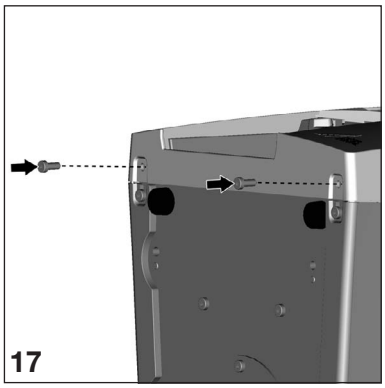


- Put the front into place.

The ribbon cable must be placed in such a way that it won't be crushed or damaged preventing it from working correctly.



- Insert two countersunk screws with the SW 2.5 Allen key.



- Insert two cylinder screws on the underside with a SW 2.5 Allen key.



- Insert the retainer.



- Click the retainer into place in the device and put the cover back into place at the same time.



- Put back the film tray.

Test 1:

- Switch unit on.
- Monitor the initialisation sequence (text is displayed on panel clearly, locking plate moves, drive starts, erasure unit lit).

There must be no unusual noises and nothing should appear on the display which are not expected from the unit.

Test 2:

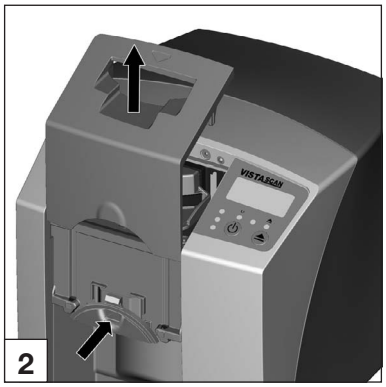
- Scan an evenly homogenously exposed image plate.
- Check the X-ray for signs of artefacts or irregularities.

There must be no signs of artefacts or irregularities.

Replacement of roll holder 2141-210-00E



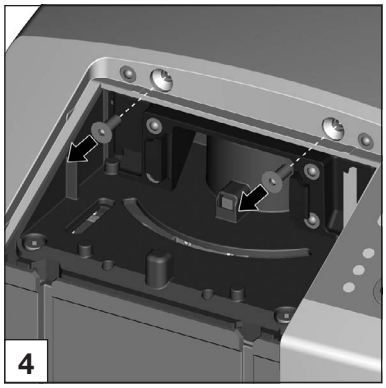
• Remove the film tray.



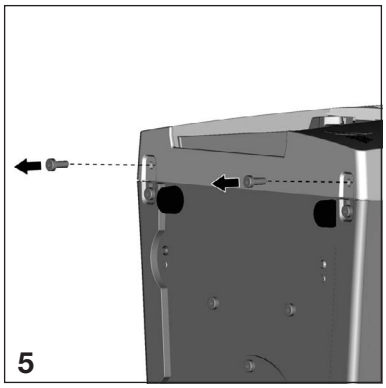
• Press the unlocking button while at the same time lifting the cover up.



• Take out the retaining plate.



• Remove two countersunk screws with the SW 2.5 Allen key.

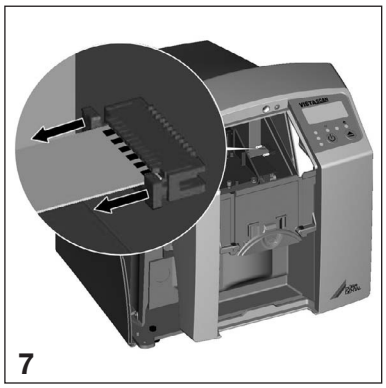


• Remove the socket-head screws underneath with the SW 2.5 Allen key.



• Lift the front away from the device very carefully.

The front is still connected to the device with a ribbon cable. See next step to remove the ribbon cable.

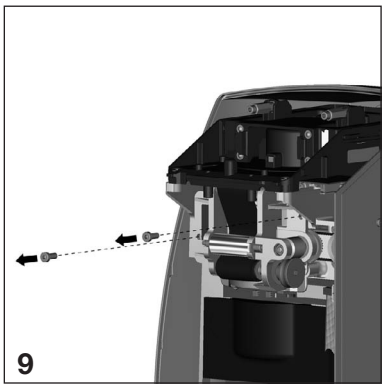


- Unlatch the “Display” socket on the main plate.

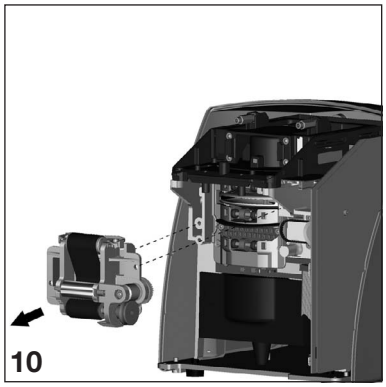
The socket is located either at the front or the back of the device depending on the main plate version. If the socket is at the rear of the device, the rear cover must also be removed (four SW 2.5 cylinder screws on the underside; two SW 2.5 counter-sunk screws on the rear).



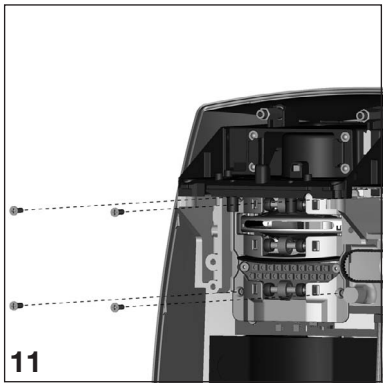
- Note the contacts of the ribbon cable.
- Pull the ribbon cable from the socket.
- Remove the front.



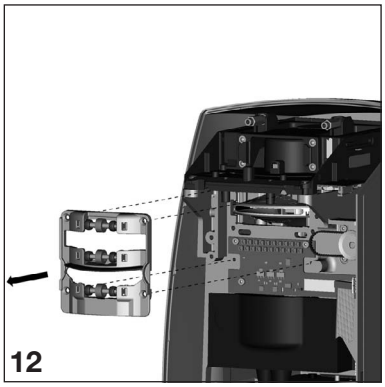
- Remove the sockethead screws from the belt drive with a SW 2.5 Allen key.



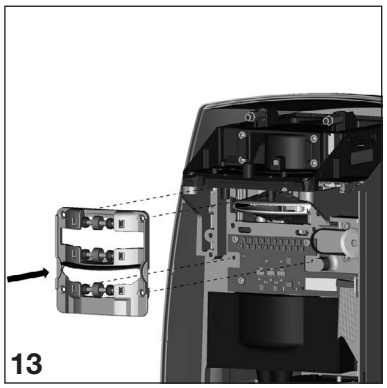
- Remove the belt drive towards the front.



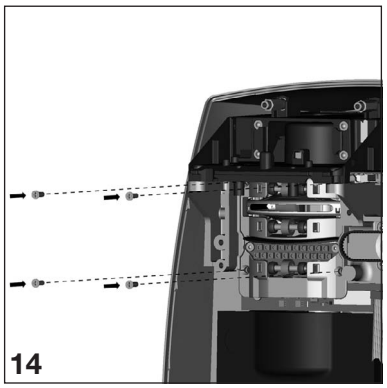
- Use the Phiips screwdriver to remove four counter-sunk screws on the roller locking plate.



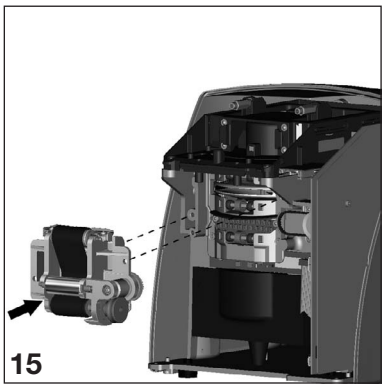
- Pull the plate forwards and outwards to remove.



- Insert the roller locking plate.

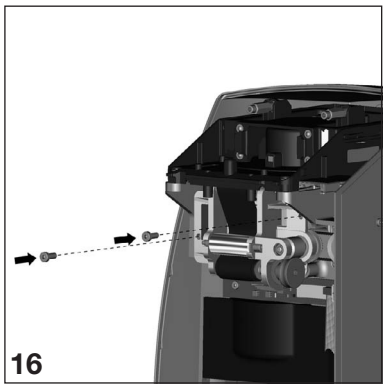


- Fix the plate in position using four counter-sunk screws and Philips screwdriver.



- Place belt drive in position.

The drive belt must be pulled over the belt coupling of the motor and the belt drive when placed in position.



- Fix the belt drive in position using two sockethead screws and a SW 2.5 Allen key.



- Put the front in place.
- Put the ribbon cable into the socket.

Check the position of the contacts!

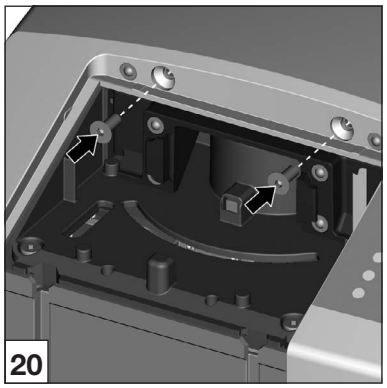


- Latch the socket.

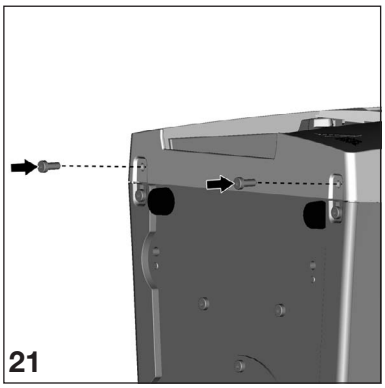


- Put the front into place.

The ribbon cable must be placed in such a way that it won't be crushed or damaged preventing it from working correctly.



- Insert two countersunk screws with the SW 2.5 Allen key.



- Insert two cylinder screws on the underside with a SW 2.5 Allen key.



- Insert the retainer.



- Click the retainer into place in the device and put the cover back into place at the same time.



- Put back the film tray.

Test 1:

- Switch unit on.
- Monitor the initialisation sequence (text is displayed on panel clearly, locking plate moves, drive starts, erasure unit lit).

There must be no unusual noises and nothing should appear on the display which are not expected from the unit.

Test 2:

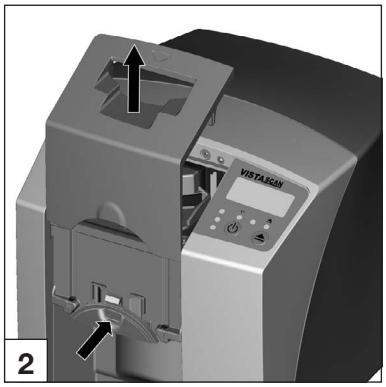
- Scan an evenly homogenously exposed image plate.
- Check the X-ray for signs of artefacts or irregularities.

There must be no signs of artefacts or irregularities.

Replacement of erasure unit 2141-410-00E



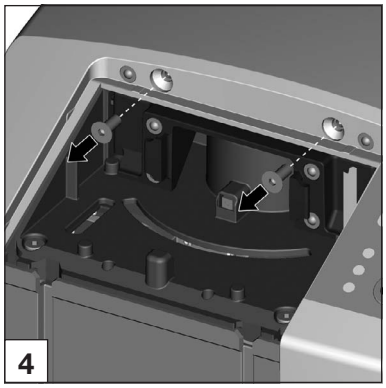
- Remove the film tray.



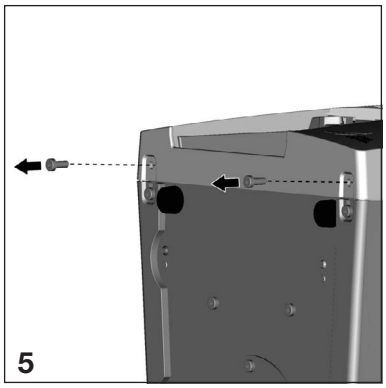
- Press the unlocking button while at the same time lifting the cover up.



- Take out the retaining plate.



- Remove two countersunk screws with the SW 2.5 Allen key.

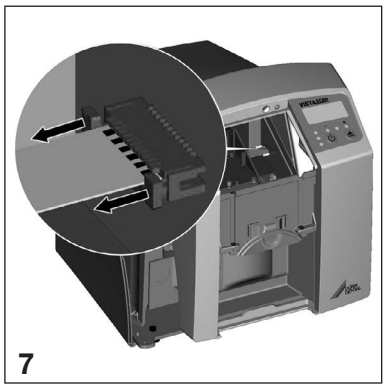


- Remove the socket-head screws underneath with the SW 2.5 Allen key.



- Lift the front away from the device very carefully.

The front is still connected to the device with a ribbon cable. See next step to remove the ribbon cable.

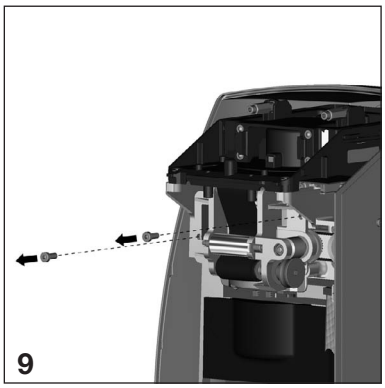


- Unlatch the “Display” socket on the main plate.

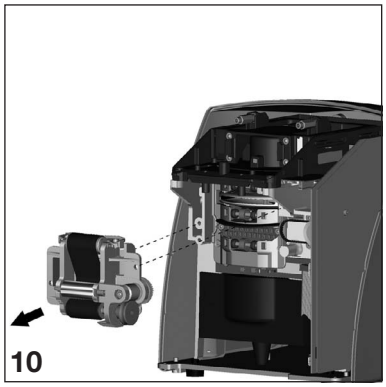
The socket is located either at the front or the back of the device depending on the main plate version. If the socket is at the rear of the device, the rear cover must also be removed (four SW 2.5 cylinder screws on the underside; two SW 2.5 counter-sunk screws on the rear).



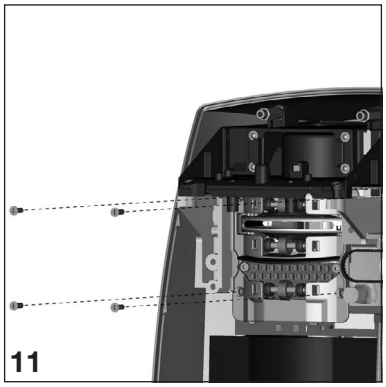
- Note the contacts of the ribbon cable.
- Pull the ribbon cable from the socket.
- Remove the front.



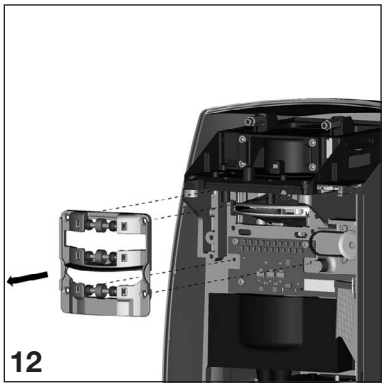
- Remove the sockethead screws from the belt drive with a SW 2.5 Allen key.



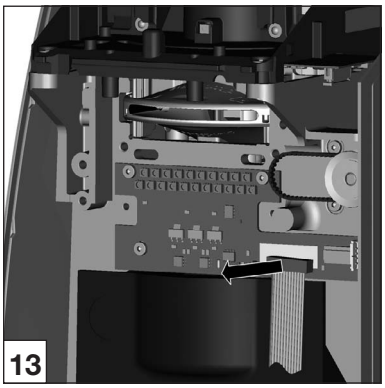
- Remove the belt drive towards the front.



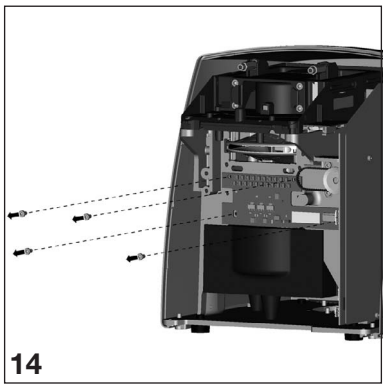
- Use the Phiips screwdriver to remove four counter-sunk screws on the roller locking plate.



- Pull the plate forwards and outwards to remove.



- Note the contacts of the ribbon cable.
- Pull the ribbon cable from the socket.



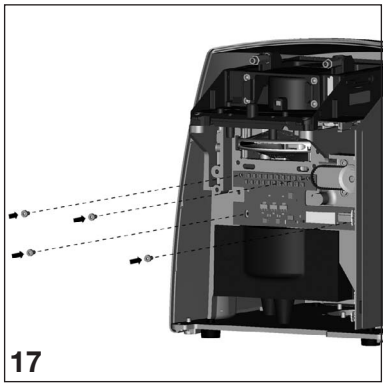
- Remove the 4 cylinder head screws from the erasure unit with a SW 2 Allen key.



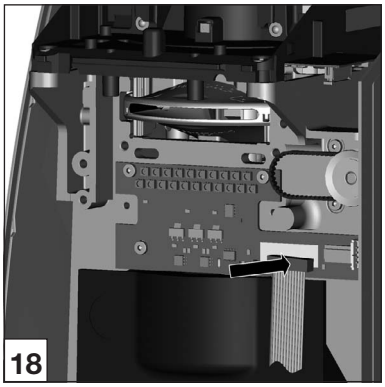
- Remove the erasure unit..



- Insert the new erasure unit.

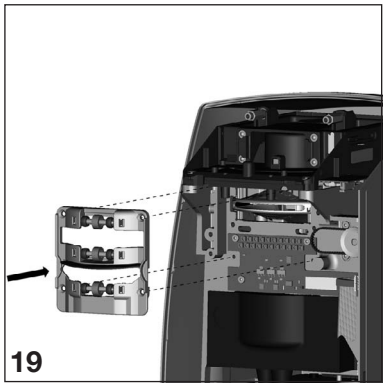


- tighten the erasure unit with the 4 cylinder head screws SW 2 Allen key.
- hitch the soft foam cover with its clip under the erasure unit.

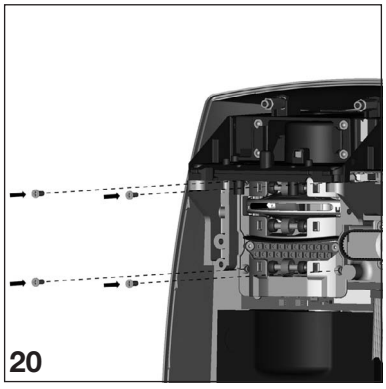


- Put the ribbon cable into the socket.

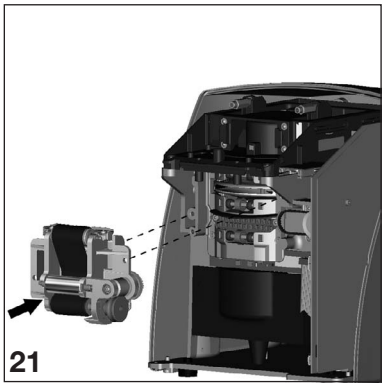
Check the position of the contacts!



- Insert the roller locking plate.

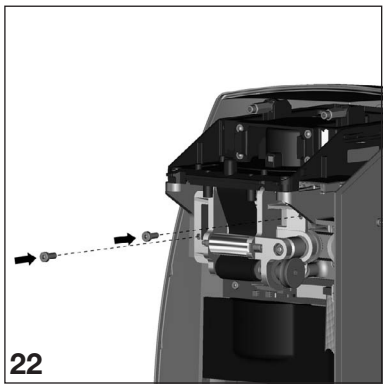


- Fix the plate in position using four counter-sunk screws and Philips screwdriver.



- Place belt drive in position.

The drive belt must be pulled over the belt coupling of the motor and the belt drive when placed in position.

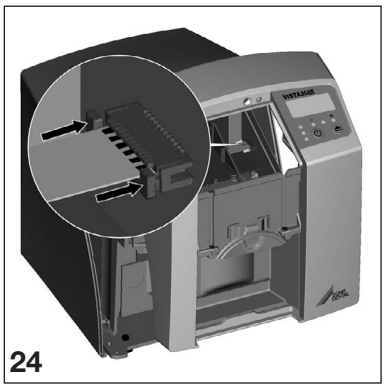


- Fix the belt drive in position using two sockethead screws and a SW 2.5 Allen key.



- Put the front in place.
- Put the ribbon cable into the socket.

Check the position of the contacts!

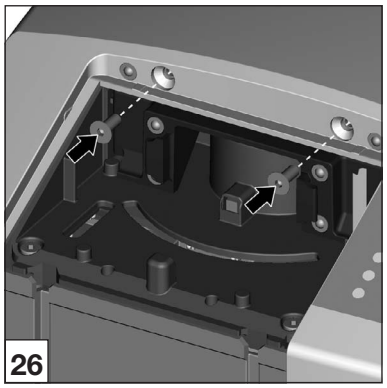


- Latch the socket.

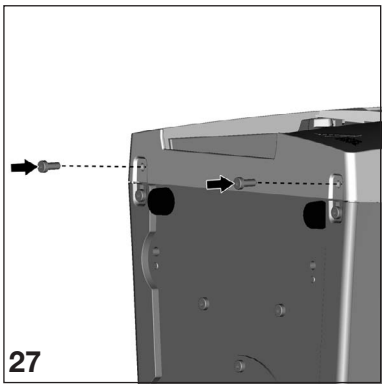


- Put the front into place.

The ribbon cable must be placed in such a way that it won't be crushed or damaged preventing it from working correctly.



- Insert two countersunk screws with the SW 2.5 Allen key.



- Insert two cylinder screws on the underside with a SW 2.5 Allen key.



- Insert the retainer.



- Click the retainer into place in the device and put the cover back into place at the same time.



- Put back the film tray.

Test 1:

- Switch unit on.
- Monitor the initialisation sequence (text is displayed on panel clearly, locking plate moves, drive starts, erasure unit lit).

There must be no unusual noises and nothing should appear on the display which are not expected from the unit.

Test 2:

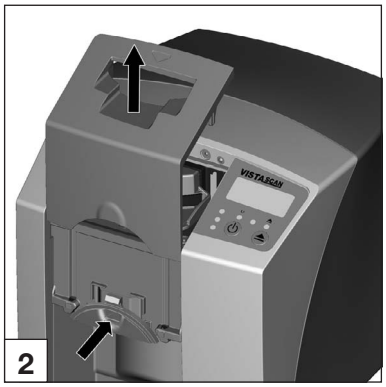
- Scan an evenly homogenously exposed image plate.
- Check the X-ray for signs of artefacts or irregularities.

There must be no signs of artefacts or irregularities.

Changing the feed module 2141-700-00E



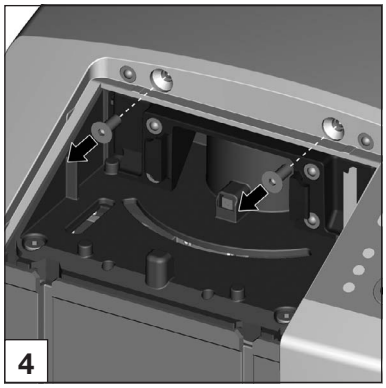
• Remove the film collection tray.



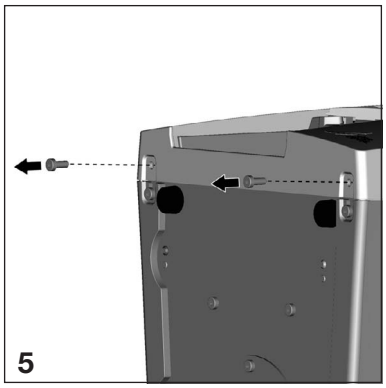
• Press the unlocking button while at the same time lifting the cover up.



• Take out the retainer.



• Remove two countersink screws with the SW 2.5 Allen key.

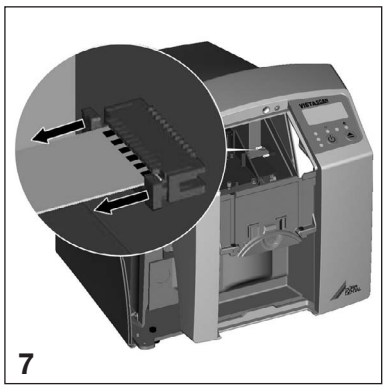


• Remove the socket-head screws underneath with the SW 2.5 Allen key.



• Lift the front away from the device very carefully.

The front is still connected to the device with a ribbon cable. See next step to remove the ribbon cable.

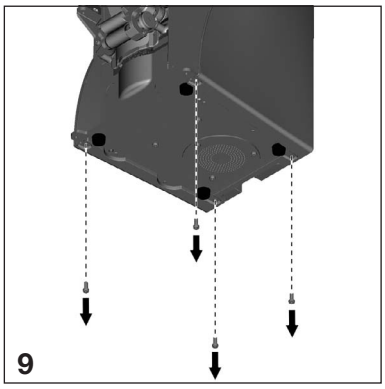


- Unlatch the “Display” socket on the main plate.

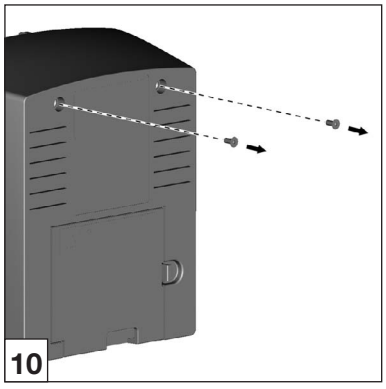
The socket is located either at the front or the back of the device depending on the main plate version. If the socket is at the rear of the device, the rear cover must also be removed (four SW 2.5 cylinder screws on the underside; two SW 2.5 counter-sunk screws on the rear).



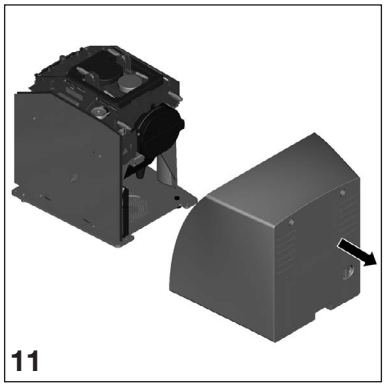
- Note the positions of the contacts of the ribbon cable.
- Pull the ribbon cable out of the socket.
- Remove the front.



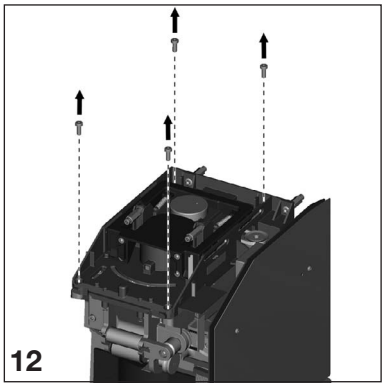
- Remove the four cylinder screws on the underside with the SW 2.5 Allen key.



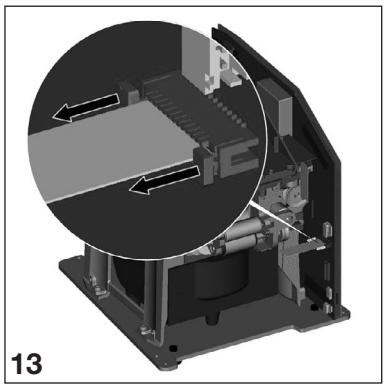
- Remove the four countersink screws on the rear with the SW 2.5 Allen key.



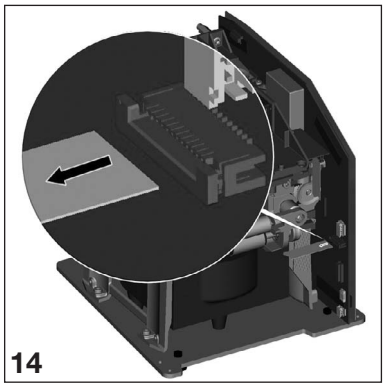
- Remove the rear cover.



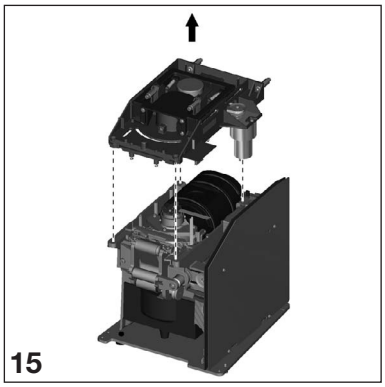
- Remove the four cylinder screws on the feed module with the SW 2.5 Allen key.



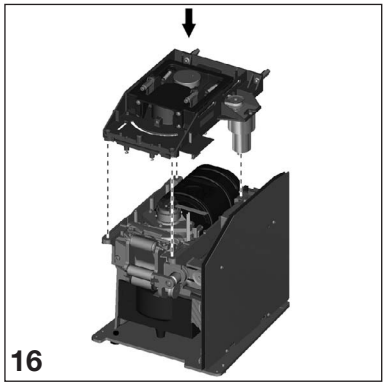
- Unlatch the socket.



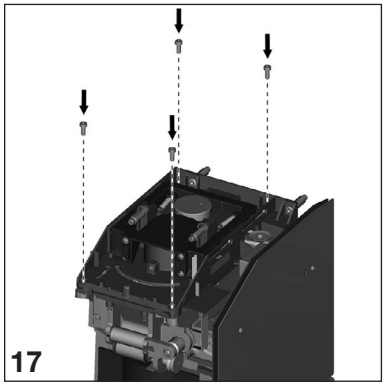
- Note the contacts of the ribbon cable.
- Pull the ribbon cable from the socket.



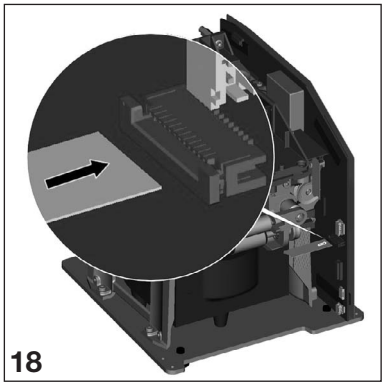
- Remove the feed module.



- Put the new feed module in place.

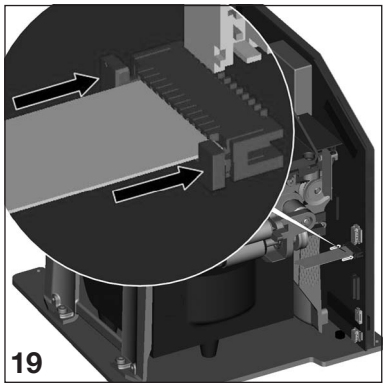


- Insert four cylinder screws on the feed module with the SW 2.5 Allen key.

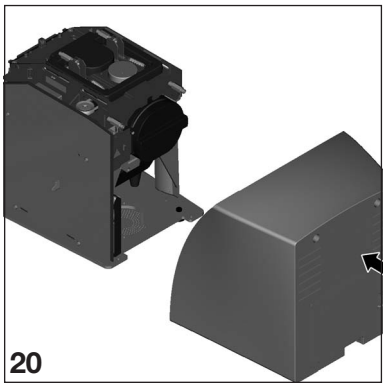


- Put the ribbon cable into the socket.

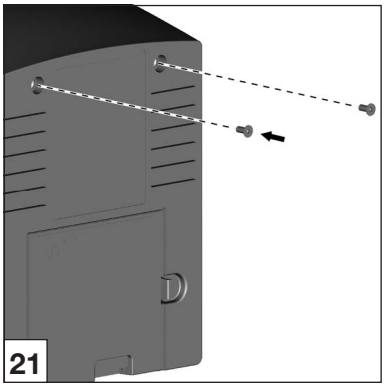
Check the position of the contacts!



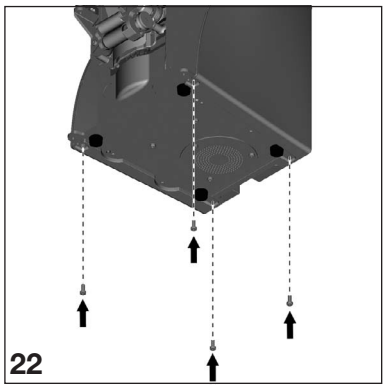
- Latch the socket.



- Put the rear cover in place.



- Insert two countersink screws with the SW 2.5 Allen key.

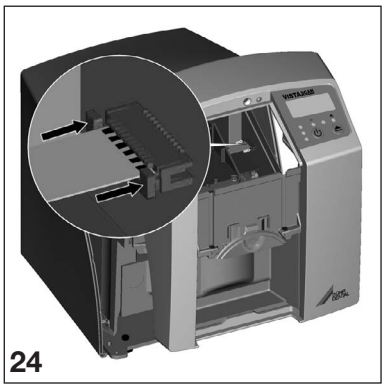


- Insert two cylinder screws on the underside with a SW 2.5 Allen key.



- Put the front in place.
- Put the ribbon cable into the socket.

Check the position of the contacts!

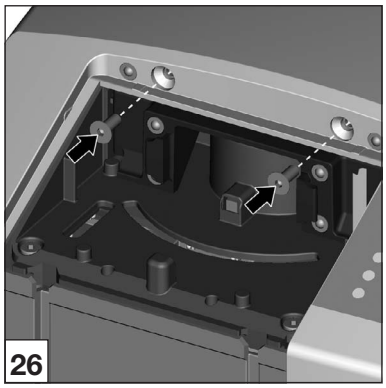


- Latch the socket.

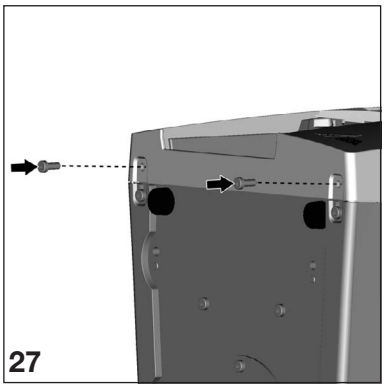


- Put the front into place.

The ribbon cable must be placed in such a way that it won't be crushed or damaged preventing it from working correctly.



- Insert two countersink screws with the SW 2.5 Allen key.



- Insert two cylinder screws on the underside with a SW 2.5 Allen key.



- Insert the retainer.

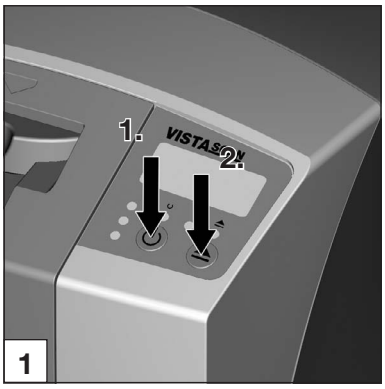


- Click the retainer into place in the device and put the cover back into place at the same time.

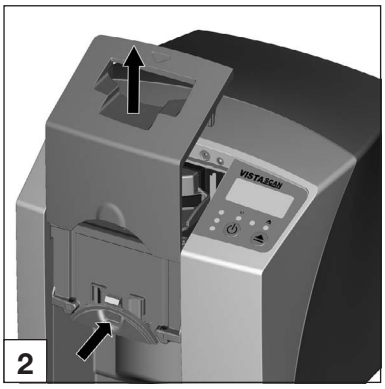


- Put back the film collection tray.

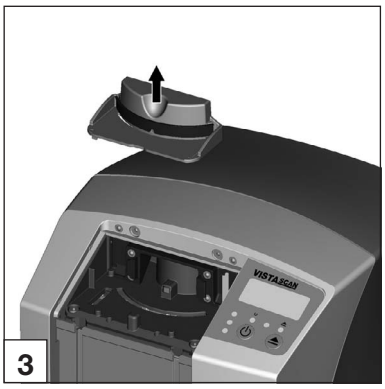
Replacement of stripping lip set 2141-995-00



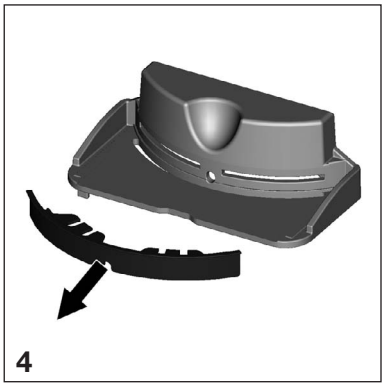
- Switch on the VistaScan Mini.
- Press the cleaning activation button.



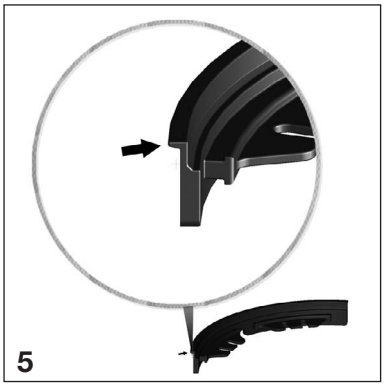
- Press the unlocking button while at the same time lifting the cover up.



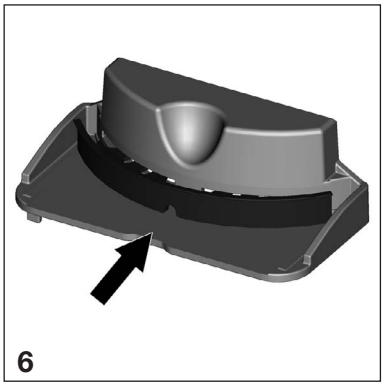
- Take out the retaining plate.



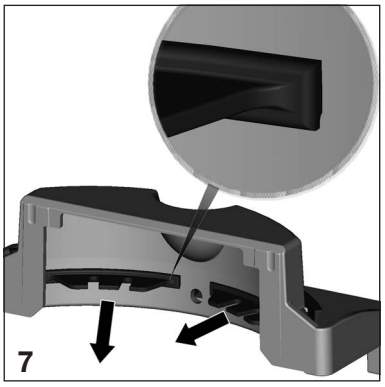
- Pull off the guard strip from the retaining plate and dispose of it.



- Use a new guard strip with a sealing lip.

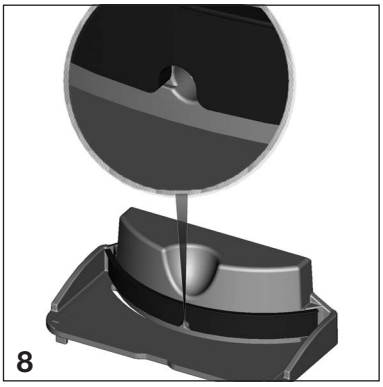


- Place the new guard strip against the slots of the retaining plate.

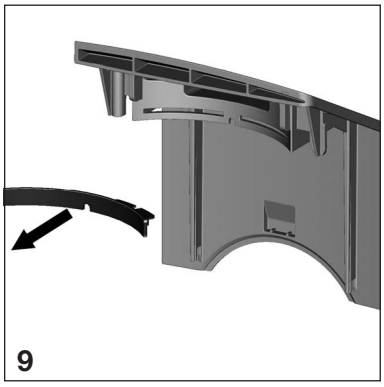


- Pull the guard strip from behind so that it slips through the slots.

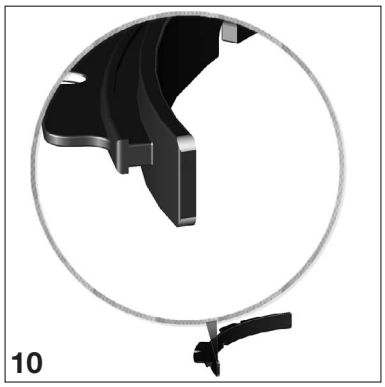
The rubber edges of the guard strip must be fully inserted into the slots on the retaining plate so that it sits tightly.



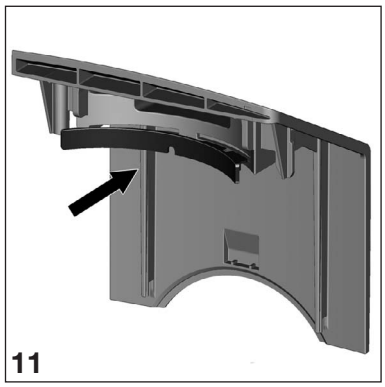
The guard strip must not obstruct the hole for the light barrier.



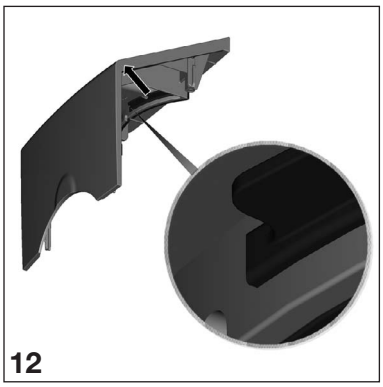
- Pull off the guard strip from the cover plate and dispose of it.



• Use a new guard strip with a sealing lip.

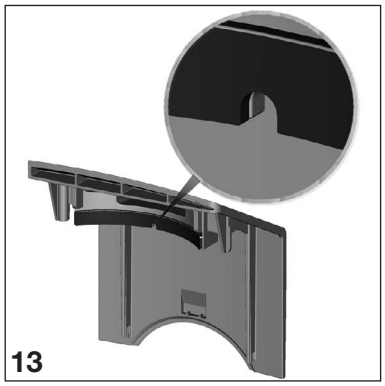


• Place the new guard strip against the slots of the cover plate.



• Pull the guard strip from behind so that it slips through the slots.

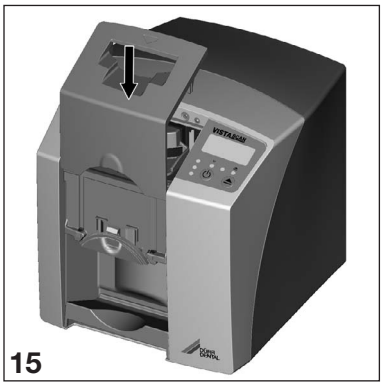
The rubber edges of the guard strip must be fully inserted into the slots on the retaining plate so that it sits tightly.



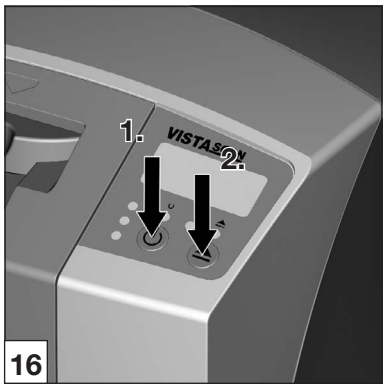
The guard strip must not obstruct the hole for the light barrier.



• Insert the retaining plate.



• Place cover in position.



• Press the cleaning activation button.
• Switch off the VistaScan Mini.

Test 1:

• Switch unit on.
• Monitor the initialisation sequence (text is displayed on panel clearly, locking plate moves, drive starts, erasure unit lit).

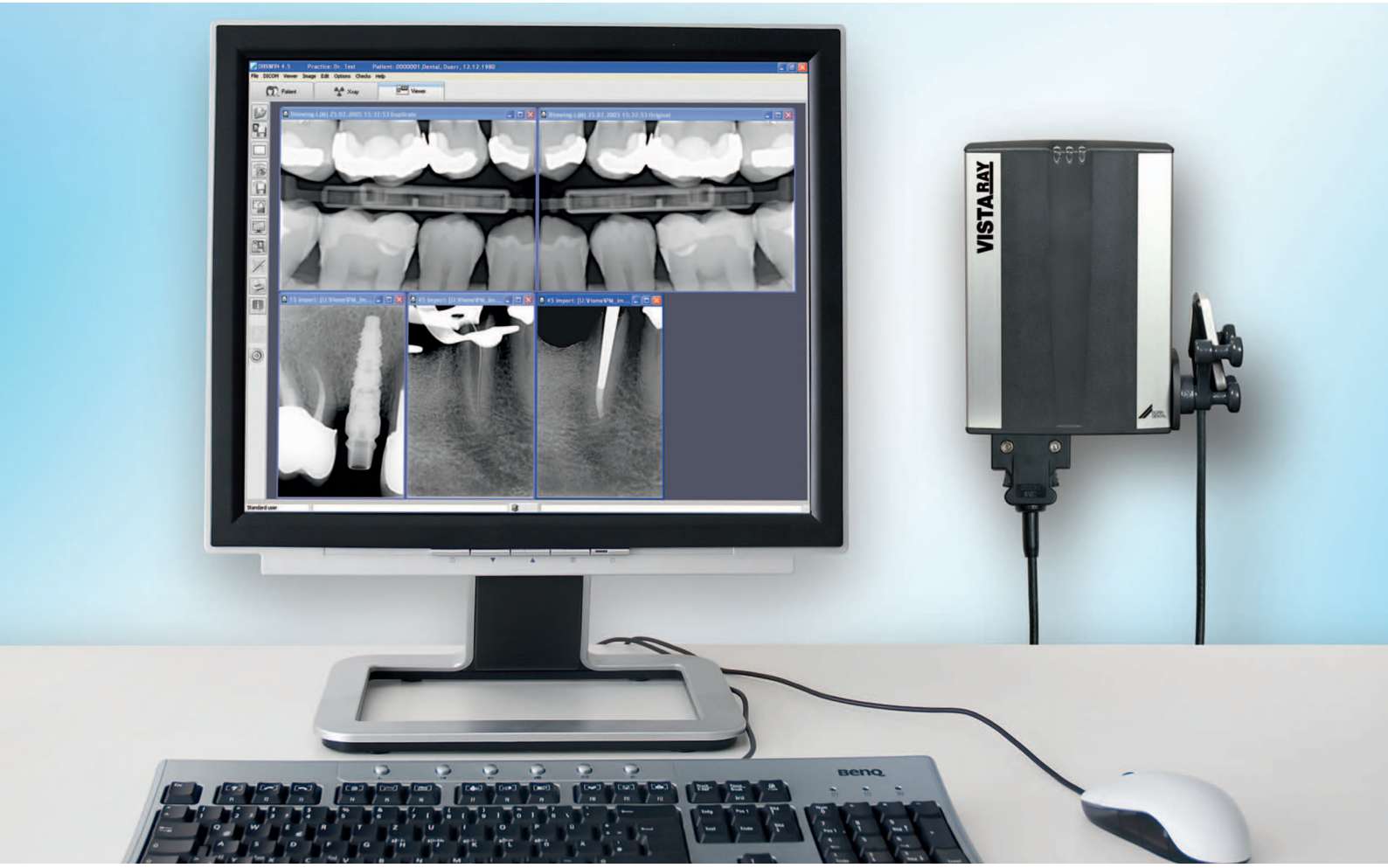
There must be no unusual noises and nothing should appear on the display which are not expected from the unit.

Test 2:

• Scan an evenly homogenously exposed image plate.
• Check the X-ray for signs of artefacts or irregularities.

There must be no signs of artefacts or irregularities.

VistaRay



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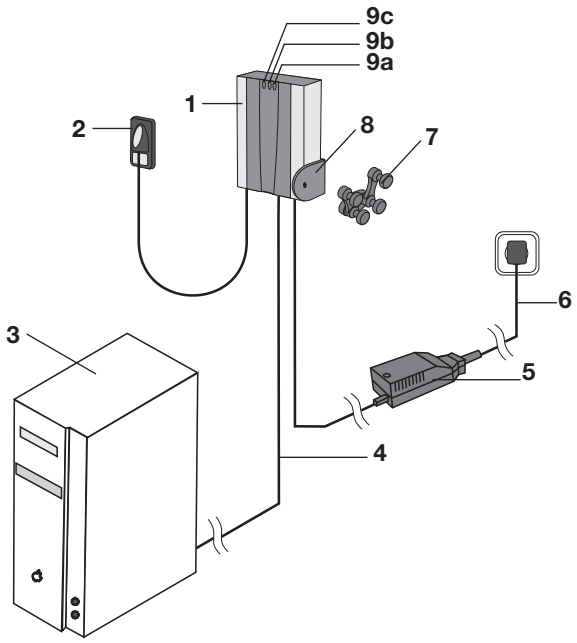
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Function display



1 CCU control unit
2 CCD-Sensor
3 PC
4 USB cable
5 Power unit
6 Mains cable
7 Sensor holder
8 CCU Controller holder
9a Ready for operation (green LED)
9b Fault (red LED)
9c Ready for imaging (yellow LED)

Function Description

The system is supplied with power via the power unit transformer (5) (green LED (9) lights). The 3 m long cable from the CCD-sensor (
2) is now connected to the CCU control unit (1). The USB-Converter is, in turn, connected by the USB adapter cable (4) to a free USB-port on the PC (3).
The CCD-Sensor is equipped with a disposable protective cover and placed in the mouth of the patient. Finally, VistaRay must be activated via the X-ray software so that it is ready for imaging. This is shown by the yellow LED (9).
During X-ray imaging, the X-rays are converted into light rays by the presence of the scintillator (light substance) which is present on the CCD sensor. After recognition by the CCD sensor that exposure has taken place, these are then recorded as an image.
The image data is then digitalized, stored to memory in the CCU Controller and finally transmitted to the PC. If an error in block sequencing occurs during transmission, the image information can be sent again. During data transmission it is not possible to carry out further imaging.

Set-up- and Installation Possibilities

Base station

Wall mounting

Fix the holder for the CCU controller (8) to the wall using screws and plugs and then slide the CCU controller (1) into position from above.

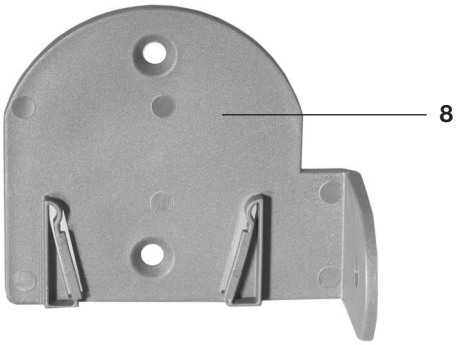
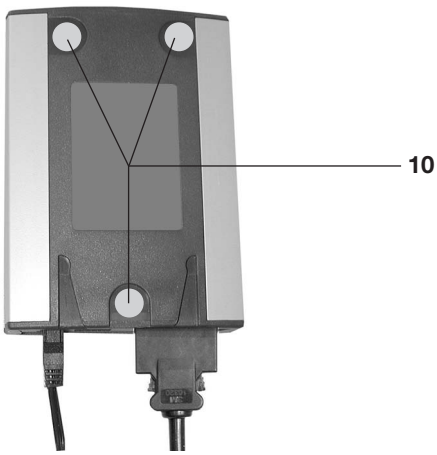


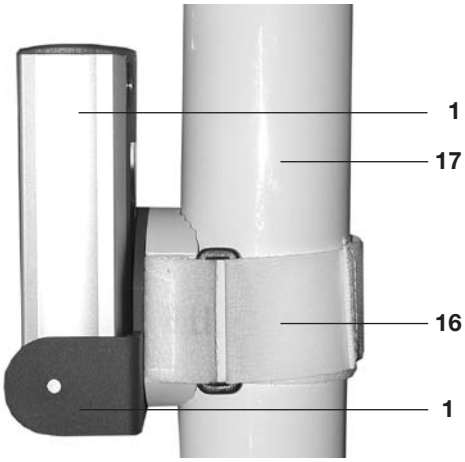
Table Set-up

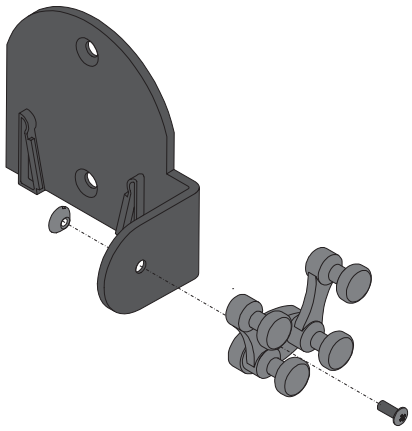
Stick the rubber pads (10) supplied onto the rear side of the CCU controller (1). Place the CCU Controller (1) onto the mounted rubber pads.



Tube fastening

The holder for the CCU controller (8) can be fastened using a velcro fastener and the holding prism (16) either on a horizontal or vertical tube (17), e.g. on the assembly bar.
Slide the CCU controller (1) into the holder from above.

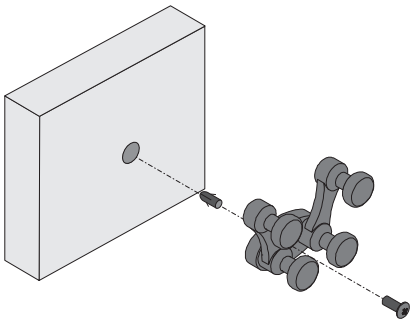




Sensor holder

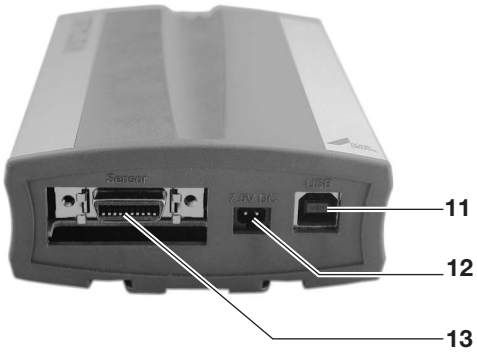
Fixture to mounting of CCU controller:

the sensor holder can be fixed to the mounting of the CCU controller using the materials provided.



Wall mounting:

The sensor holder can be secured using either a double-sided adhesive pad or with screws and plug to the treatment unit or onto the wall respectively.

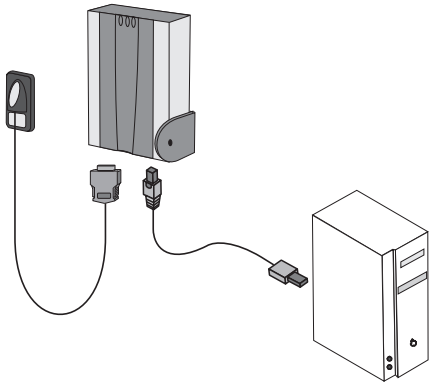


Electrical connection

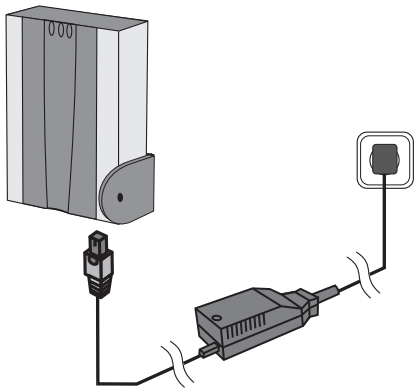
Only connect the power unit to the 230V power supply voltage () of the VistaRay after all the other components and cables have been connected.

- Insert the USB cable connector to the port on the CCU control unit (11).
- Insert the USB cable connector to a free USB port on the PC.
- Insert the connector from sensor to the port on the CCU control unit (13).

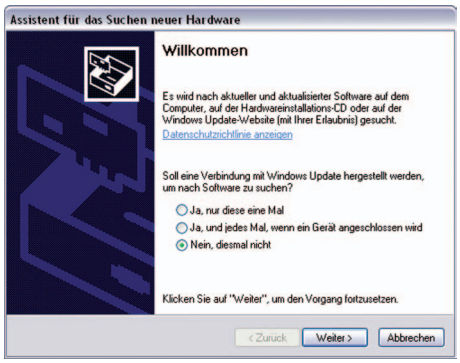
Do not allow the CCD-sensor to fall, or apply pressure to the unit.

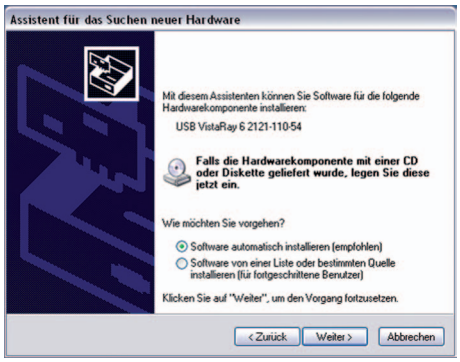


- Insert the power cable plug into the socket on the CCU control unit (12).
- Insert the power cable into the socket of the power unit on one side and into the mains power socket (230 V). Green LED of CCU controller must light up.

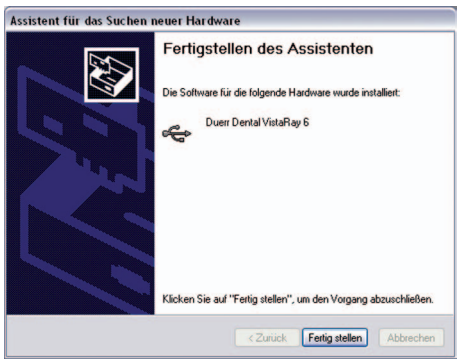


Installation and configuration









CCU control unit

- Place the CD-ROM (e.g. DBSWIN from Version 4.5) supplied in the CD-ROM-drive.
- Close the autostart menu.
- Connect the CCU Controller to the computer and to the mains power supply.
- Once the USB-appliance has automatically been recognised and „New hardware Assistant“ appears, choose „No, not this time“.
- Click „Continue“ .
- Choose „Automatically install software (recommended)“.
- Click „Continue“ .
- When Windows-Logo-Test appears, click „Continue installation“.
- Complete installation of CCU Controller with „Finish“.

CCD-Sensor

- Connect the CCD sensor to the CCU Controller.
- Place the supplied calibration CD in the CD-ROM drive. The CD starts automatically and the driver will be automatically installed.

When the calibration data is not automatically installed then the autostart function under Windows has been deactivated.

The following methods can be used in order to subsequently install the calibration data:

Install the calibration data using VistaConfig

- Start VistaRayConfig using sequence „Start/All programs/Duerr Dental/VistaConfig/VistaRayConfig“.
- Choose the scroll bar „Calibration data “.
- Click „Install sensor “.
- Select the path for the CD-ROM drive.
- Click „Open“.

or

install calibration data using Computer

- open option Computer.
- Click on the CD-ROM drive.
- Start file „SetupCCD.exe“.

Checking the installation

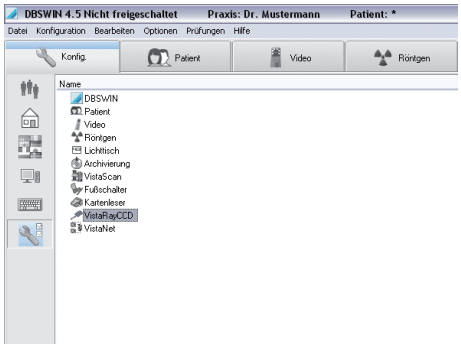
- Start VistaRayConfig using „Start/All programs/Duerr Dental/VistaConfig“.
- Open „Hardware properties“ and check under „Connection and settings“ whether the correct serial numbers of the CCU Controller, the CCD sensor, etc. are entered.



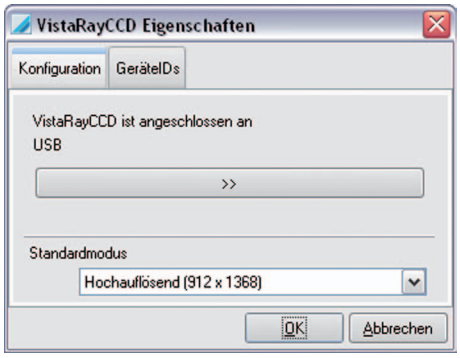
Configuration

Start DBSWIN.

• Click „Option“ and „Display configuration“.



• Double-click „VistaRayCCD“.



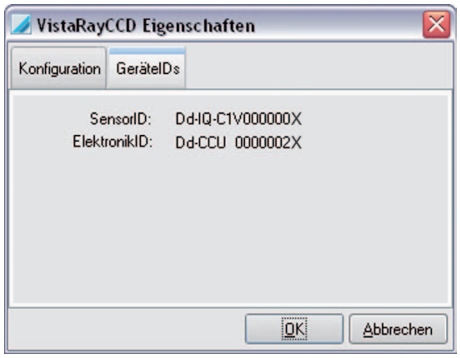
Tab configuration

Use the selection panel [>>] to start VistaRayConfig. VistaRayConfig can be used to set up additional settings.

Use „Standard mode“ to change resolution.

It is recommended that you use the preset standard setting „High resolution (912 x 1368)“. The increased resolution will result in a longer transmission time but the image quality will be considerably improved.
Standard mode

- **„High resolution (912 x 1368)“** for X-ray exposures with 22.7 LP/mm.
- **„Standard (456 x 684)“** for X-ray exposures with
11.35 LP/mm.



Appliance ID tab

Appliance ID can be used to call up the serial numbers of the installed CCD sensor and the CCU Controller.

Starting up

System prerequisites

All components connected must meet the minimum system requirements for VistaRay 6 order number: 9000-618-131/01.

Safety check

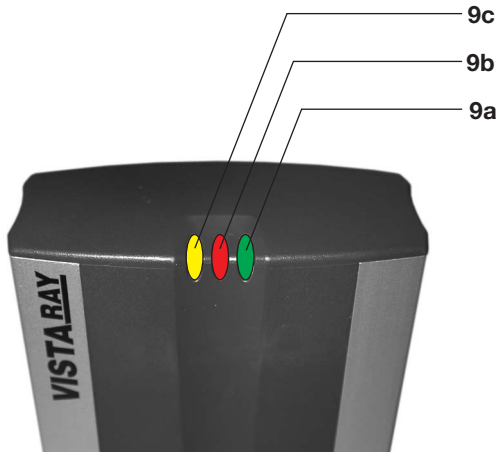
After set up and commissioning of the VistaRay the necessary national tests required (VDE 0751-1, IEC 60601-1) must be carried out and documented.

Acceptance and Consistency Test

In the Federal Republic of Germany after the setting up any X-ray system it is necessary ro carry out a Commissioning Test and also monthly Constancy Checks according to X-ray regulations (RöV).

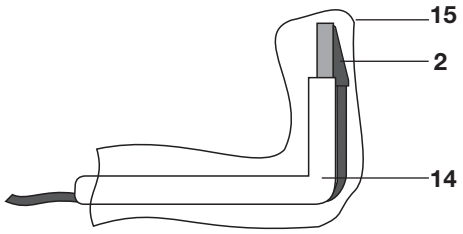
Recording test results is obligatory and these can be carried out under DBSWIN and also maintained.

- Carry out a Commissioning Test according to national regulations.
- In the Federal Republic of Germany the test piece (order number 2121--060--52) must be used.



Description of LEDs

green (9a)	Operational
yellow (9c)	ready for exposure
red (9b)	fault



Use of the Appliance

Working with VistaRay

The CCD-Sensor can be used both with and without the angle holder. In order to avoid positioning errors we recommend that you use the angle holder.

Where VistaRay is being operated using either DBSWIN or VistaRay Easy the X-ray exposures can either be set to a high resolution mode (22.7 LP/mm) or to the Standard mode (11.35 LP/ mm).
Transmission time varies from 4 to 16 seconds depending on the siye of the sensor and the settings.

Creating an X-ray recording

- Start up your PC
- Start X-ray software.
- Select the required scanning mode.
- Proceed until imaging ready stage of VistaRay in the X-ray software is reached.

Avoidable exposure to beams:
Both LEDs (yellow and green) on the CCU controller (1) must be lit before any exposure, otherwise the image recorded will not be stored and the exposure may have to be repeated.

- Place the CCD-Sensor (2) in the angled retainer (14).

Do not allow the CCD-sensor to fall, or apply pressure to the unit.

- Slide the hygienic protective cover (15) over the combined right-angle holder with CCD sensor (2) or over the CCD sensor alone. Place the CCD sensor into the patient´s mouth.

Hygiene protection:
For health and safety reasons a hygienic protective cover must always be used.
Do NOT use these a second time.

- Set the correct exposure values on the X-ray appliance. See section 14: Recommend exposure times
- Take an image using the X-ray equipment.
  The CCD sensor automatically registers when X-ray exposure is activated and transmits the image automatically to the software.

The CCU controller is not active during transfer of image data to the PC (yellow LED not lit).
As soon as the yellow LED lights up the system is ready for operation again.

Acceptance and Consistency Test



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General

Guidelines

Depending on the statutory regulations for the dental surgery, a periodic inspection of the installed X-ray systems is required. This covers the X-ray source, the image forming equipment (CCD sensor, image plate with scanner) and the image viewing appliance (software, PC graphics board, monitor).

In Germany the following guidelines and standards have to be observed;
- QA guideline of the radiation control act (RöV).
- DIN 6868-5 Constancy testing in dental radiology.

Acceptance check

The acceptance test for the X-ray system must be performed by a certified technician before it is used with patients.
The acceptance test is audited by an expert.

The aim of the acceptance test is:
- To obtain the best possible image quality by using the lowest possible dose.
- To establish the standard data according to regulations - § 28 RöV
- To establish the base data required for the constancy testing

A complete acceptance test must be carried out:
- before acceptance an X-ray appliance (i.e. before first use),
- when moving appliances to a new room,
- when changing the owner/operator (only if demanded by AAS)

The constancy testings should be carried out by the manufacturer or the supplier

Periodic checks:
Every 5 years, a recurring test has top be carried out by an expert.

Constancy testing

The constancy check of the X-ray system (in accordance with DIN 6868-5) is performed by the surgery team and has to be repeated every 4 weeks. (§16 (3) RöV)

Constancy testings must be carried out by taking X-ray exposures of the test body using the same dosing parameters as used for the acceptance test (benchmark values).
The monthly constancy testings (test exposures) are compared with the X-rays of the acceptance test (benchmark values) and the measurements checked for possible deviation from the benchmark values.
Exposures made during constancy testings must be clearly labelled as such.
Test results and the parameters of any subsequent image processing changes must be documented and maintained.

If the image recording system (e.g. digital image receiver) or the creation of the image being viewed is changed, the benchmark values must be newly established using a partial acceptance test.

Partial acceptance test

A part acceptance check has to be carried out if a component is replaced (e.g. VistaScan or VistaRay, monitor, X-ray appliance, image plate type or sensor, etc.) that influences the image quality.

All relevant data are taken from the previous acceptance test.

Acceptance and consistency test for image-viewing appliance with DBSWIN

Acceptance test and constancy testings (BWG) can be carried out using the software-supported DBSWIN.
The program appears automatically on starting DBSWIN, or can be started up under menu Options/Monitor test.

The objective of the BWG acceptance test is:

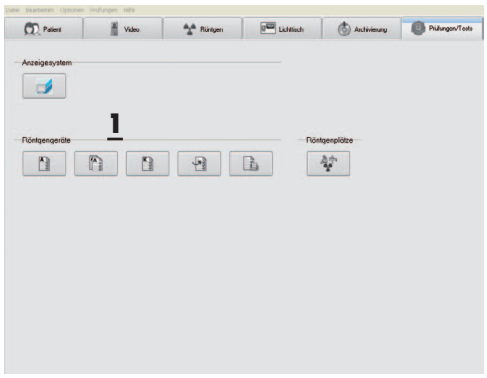
- To check that the monitor is suitable to be used for diagnostic purposes, as well as a check of the set-up conditions.

The constancy testings should be carried out by the manufacturer or the supplier

The objective of the BWG constancy testings is:

- To ensure that the image quality of the monitor used for diagnostic purposes is maintained.

Acceptance and Consistency Test in DBSWIN



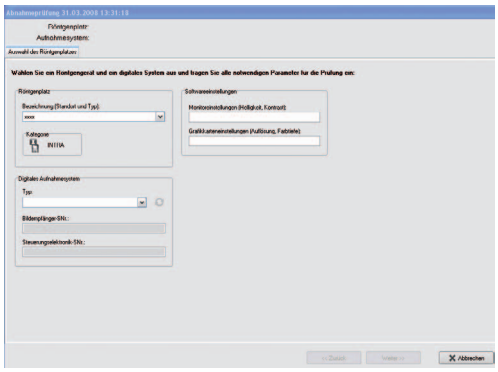
Acceptance check

- In menu [Tests] select the menu instruction [All Tests].
- Click on the [Perform acceptance check] button. (1)

The acceptance test can only be performed after entering an access code. The access code is made up as follows:

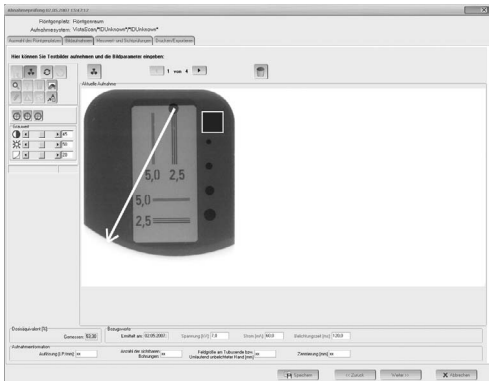
Current date (day and month) in reverse.
For example: 03. May = 03.05. Access code: “ 5030”





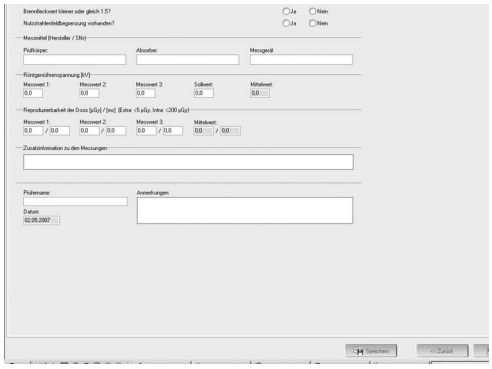
"Selection of the X-ray tube" tab

- Select the X-ray tube.
- Enter all required details into the fields.
- Click on the "Next" button.



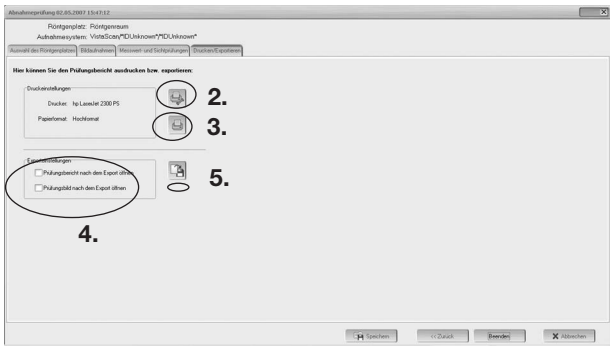
"Image Exposures" tab

- Enter the benchmark values (form fields marked in red)
- Record the test images on the X-ray appliance and read with VistaScan.
- Perform the visual checks and measurements on the X-ray exposure.
- Enter the image parameters in the fields of the form.
- Click on the "Next" button.



Tab "Measured value and visual test“

- Enter the resulting values in the fields of the form.
- Click on the [Forward] button.

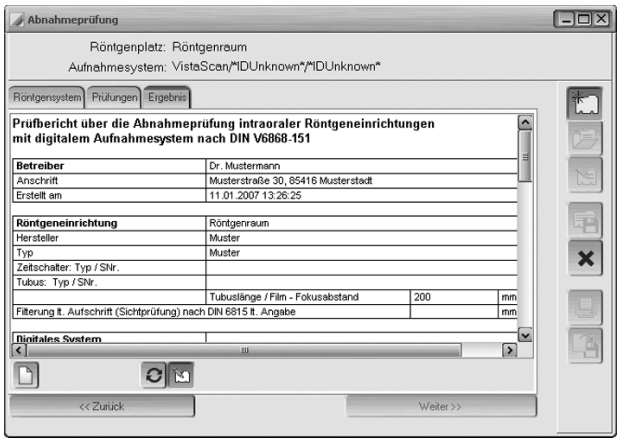


"Print / Export" tab

- Define the print settings by pressing the button [Configure print settings]. (2)
- Print the check by clicking on the [Print check] button. (3)

  or:
- Define export settings. (4)
- Export the check by clicking on the [Export files] button. (5)

- Save the check by clicking on the [Save] button.
- Finish the check by clicking on the [Close] button.



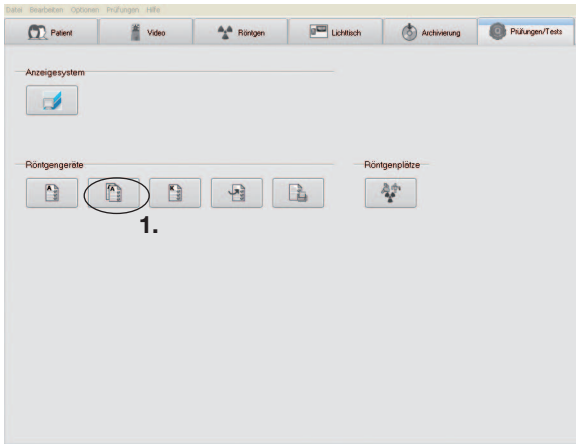
Fill in the acceptance form and save it

All the results of the acceptance test are entered into this acceptance form. The predefined setting parameters will be automatically adopted and entered in the form. All other values must be added to the form in the appropriate fields.

- Complete the acceptance form and print out
- Press option [Save]
- Confirm with [No].

After saving the values can only be changed within the next 7 days. After this time, any change can only be made by doing the acceptance test again.

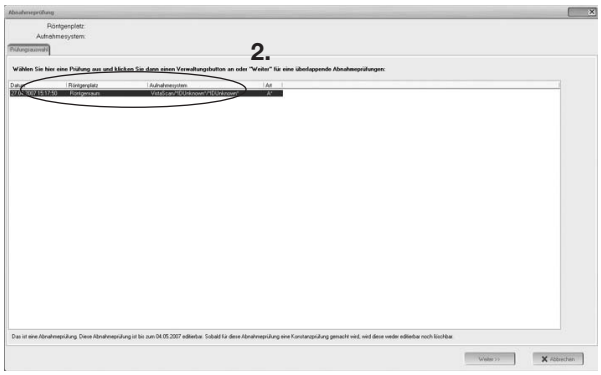
Overlapping recording test in DBSWIN (part acceptance test)



- In menu [Tests] select the menu instruction [All Tests].
- Click on the [Overlapping acceptance test] button. (1)

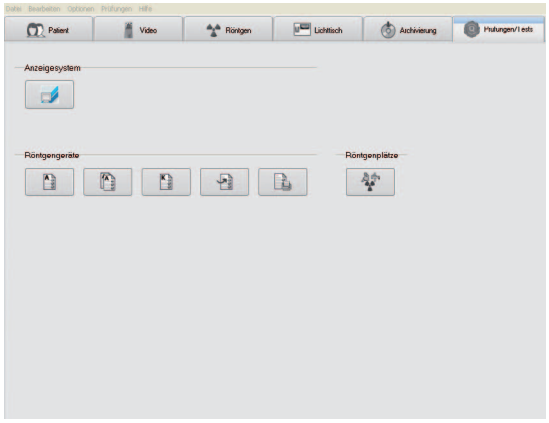
The acceptance test can only be performed after entering an access code. The access code is made up as follows:

Current date (day and month) in reverse. For example: 03. May = 03.05. Access code: “5030”

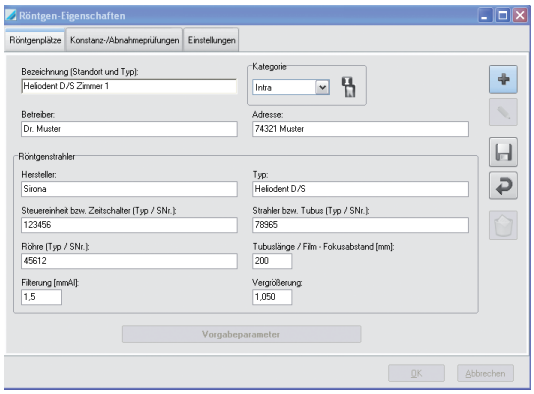


- Select the respective test in the selection list. (2)
- Click on the "Next" button. (3)
- Perform overlapping acceptance test as described under "Performing the acceptance test“.

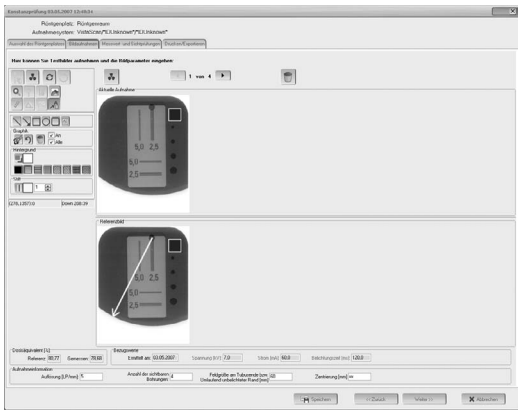
Consistency test in DBSWIN



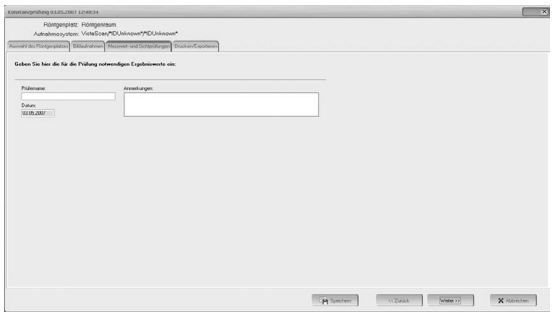
- Click on the "Perform consistency test" button.



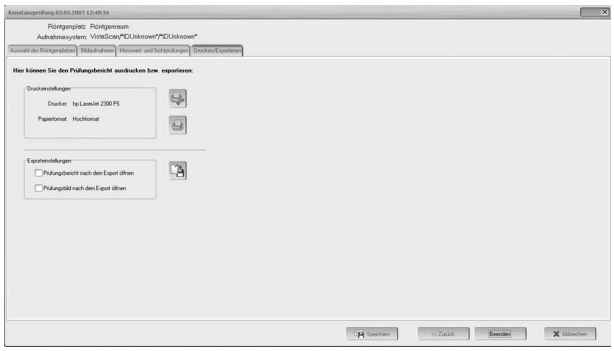
- Select the X-ray tube.
- Click on the "Next" button.

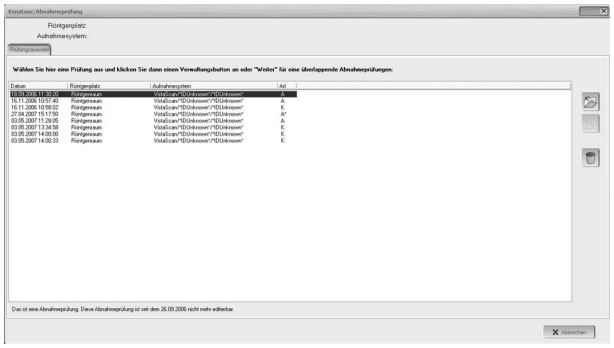


- Record the test images on the X-ray appliance and read with the scanner.
- Perform the visual checks on the X-ray exposure.
- Enter the image parameters in the fields of the form.
- Click on the "Next" button.



- The name of the tester as well as any remarks into the fields.
- Click on the "Next" button.





"Printing / Exporting" checks

- Define the print settings by pressing the button [Configure print settings].
- Print the check by clicking on the [Print check] button.

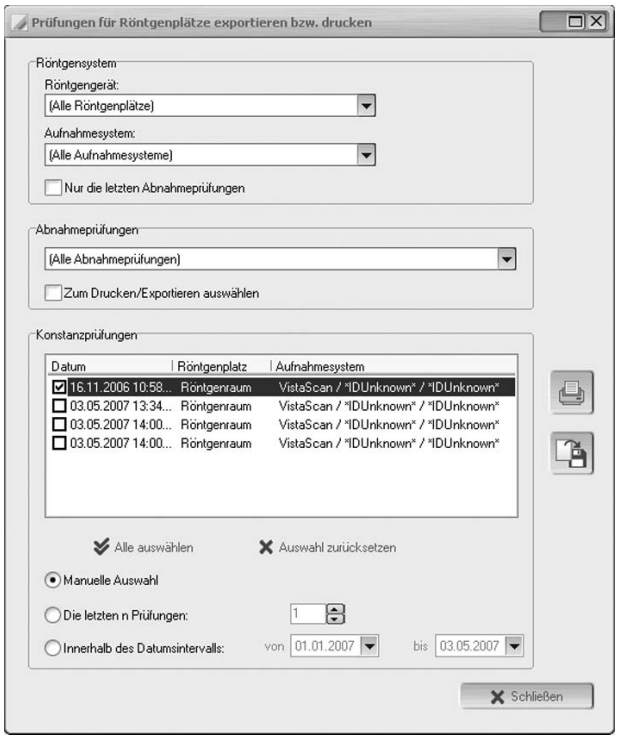
or:

- Define export settings.
- Export the check by clicking on the [Export files] button.

- Save the check by clicking on the [Save] button.
- Finish the check by clicking on the [Close] button.

Managing checks

Here, the tests can be selected from the list and opened, edited and deleted with the buttons.



Printing / Exporting checks

X-ray system (1.)

- Select the X-ray unit and the recording system.

If the checkbox [only the last acceptance tests] is activated, only the last acceptance test and the respective consistency tests are shown.

Acceptance tests (2.)

- Select the acceptance check you want to print/export.

Only the respective consistency tests are shown in the consistency tests selection field.

If the checkbox [select for printing / exporting] is activated, the acceptance test is printed / exported at the same time.

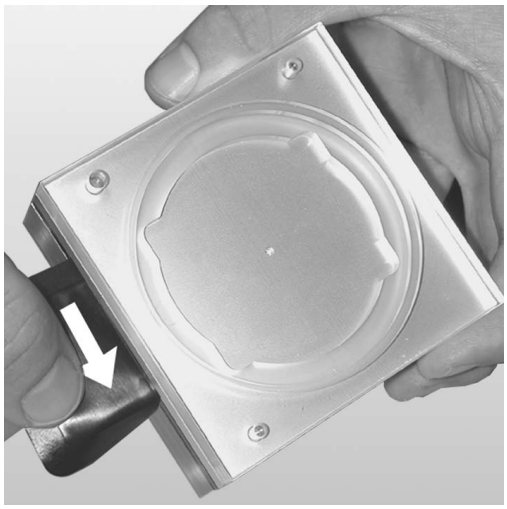
Consistency tests (3.)

- Select the consistency tests to be printed/exported with the selection capabilities below. The checks selected have a checkmark in the list of options.

Print button (4.)

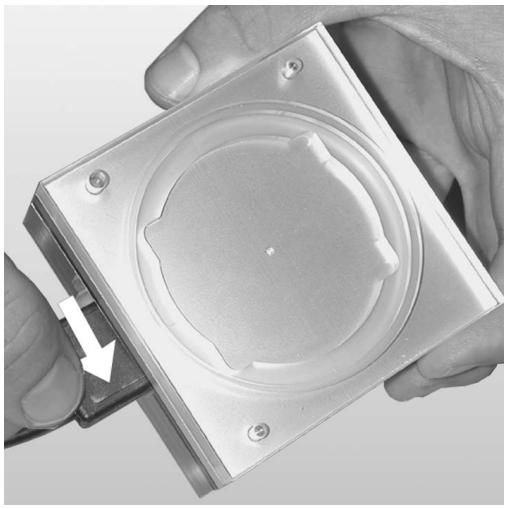
- Print the checks by clicking on the button. Export button.
- Export the checks by clicking on the button.

Digital test body (intraoral)



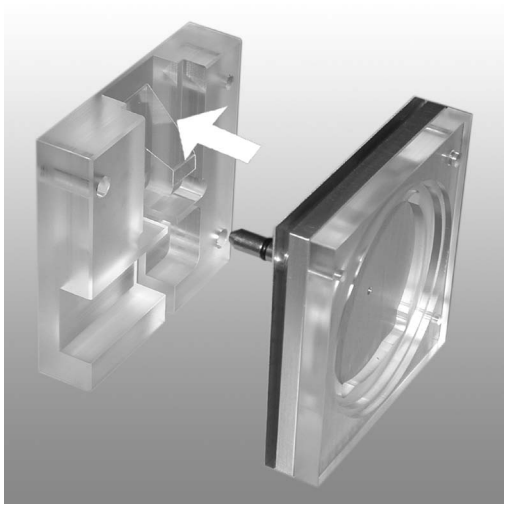
Test design image plate

- Insert the image plate into the light protection cover. Tear off the adhesive strip (V cut-out) on the light protection cover.
- Insert the image plate (light protection cover forwards) on the right side of the insert opening into the test body until the stop. The active side of the image plate must be facing towards the X-ray appliance.



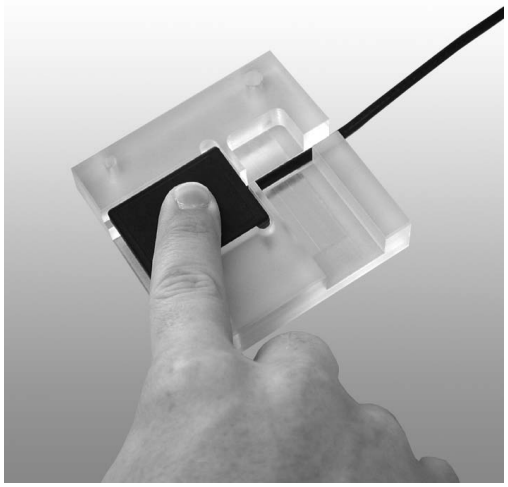
Test design sensor IQ1 / IQplus 1

- Insert the sensor on the right side of the insert opening into the test body until the stop. The active side of the sensor must be facing towards the X-ray appliance.

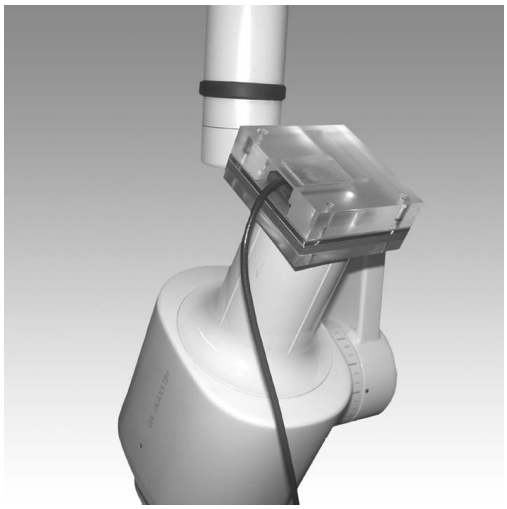


Test design sensor IQ2 / IQplus 2

- Remove the lower part of the test body



- Insert the sensor with the active side upwards in the aperture of the lower part of the test body. Lay the sensor cable in the slot.
- Put the lower and upper part of the test body together.



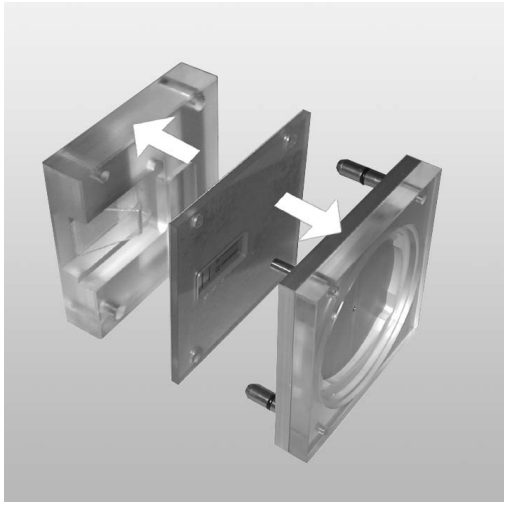
Make a test recording

- Turn the tube upwards and place the test body with the eccentric rings onto the tube.

Alternatively place the test body on a level surface and insert the tube perpendicularly into the centering rings of the test body.

- Set the x-ray parameters (kV, mA, s) on the x-ray appliance and trigger the recording (observe the maximum dose of 200µGy for digital x-ray processes).

Digital test body (extraoral)

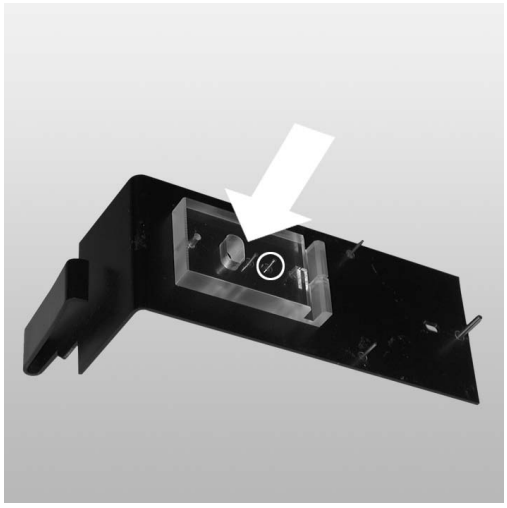


- Disassemble the test body. (Pull the individual parts apart)

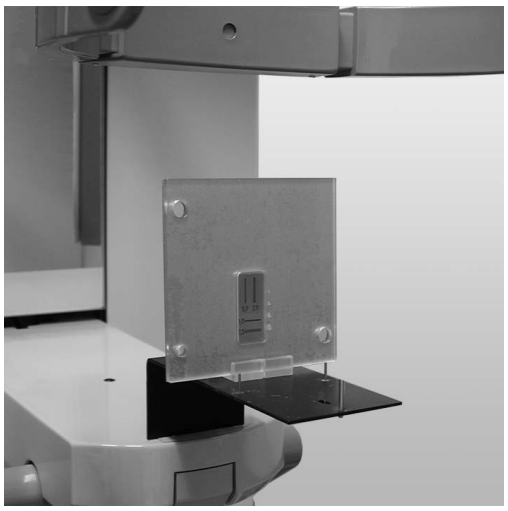


- Place the secondary absorber (order no. 2130-991-10) with the thick side downwards in front of the secondary diaphragm. (Gap in front of the X-ray film cartridge.)
- Centre the secondary absorber.

With Sirona Orthophos units



- Place the test element holder onto the needle phantom. The needle must be pushed into the rear bore (white circle).

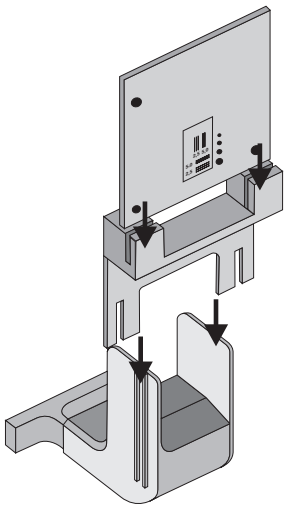


- Position the needle phantom on the x-ray device.
- Fit the test element and position it in the centre of the layer. Mark the position of test element holder and test element.
- Trigger the recording.

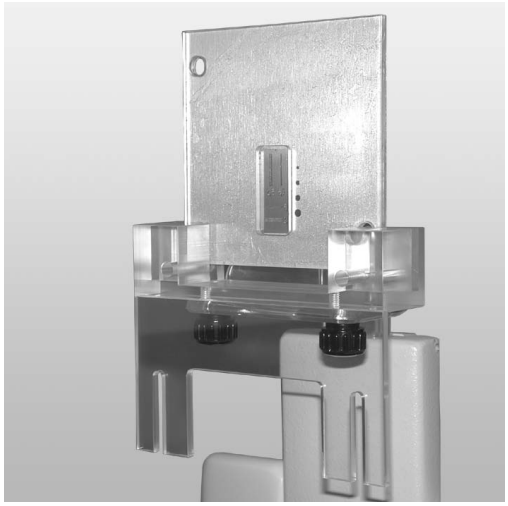
With Gendex- / Soredex- appliances



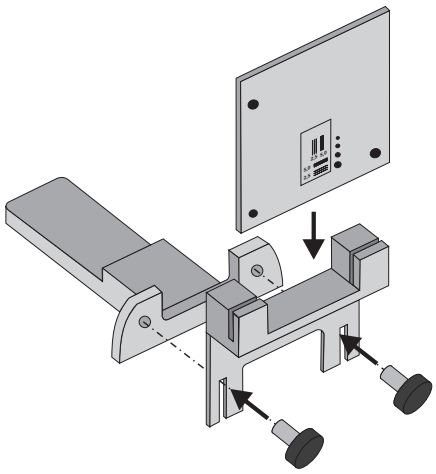
- Mount the test element holder with the screws onto the chin rest.
- Position the test element holder onto the x-ray device.



- Fit the test element holder on the chin rest.
- Fit the test element and position it in the centre of the layer.

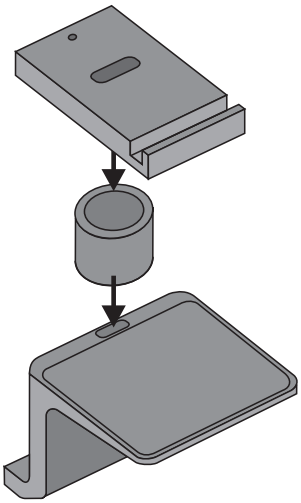


- Fit the test element and position it in the centre of the layer. Mark the position of test element holder and test element.

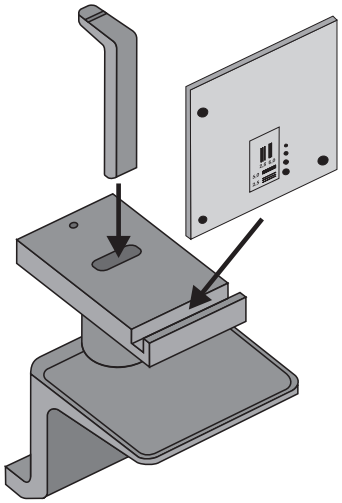


- Fixate the test element holder with the screws.
- Fit the test element and position it in the centre of the layer. Mark the position of test element holder and test element.

With Planmeca devices

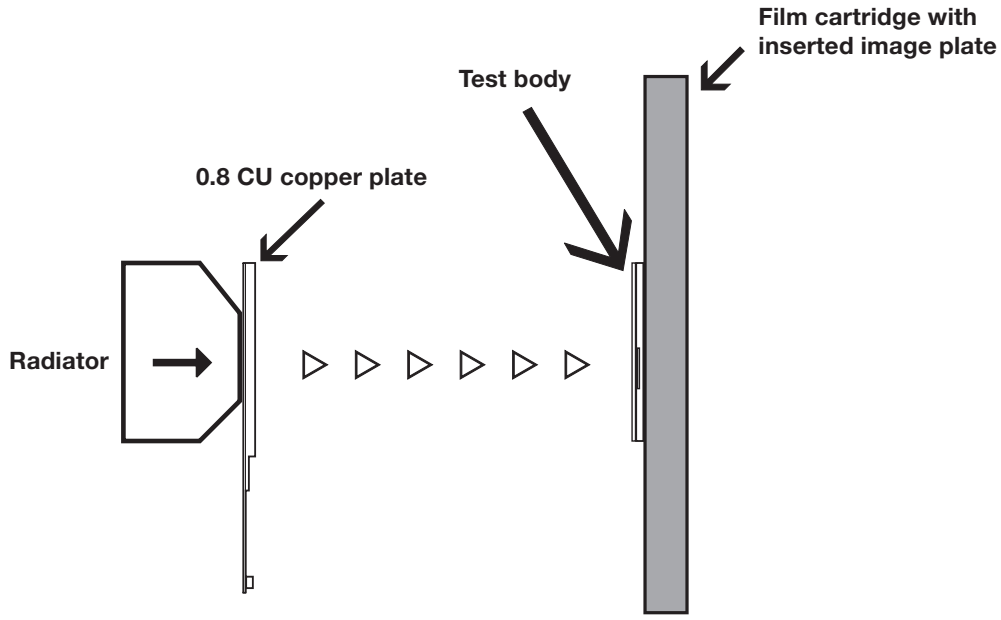


- Place the distance piece and the test element holder onto the chin rest



- Fixate them with the occlusal plate.
- Fit the test element and position it in the centre of the layer. Mark the position of test element holder and test element.

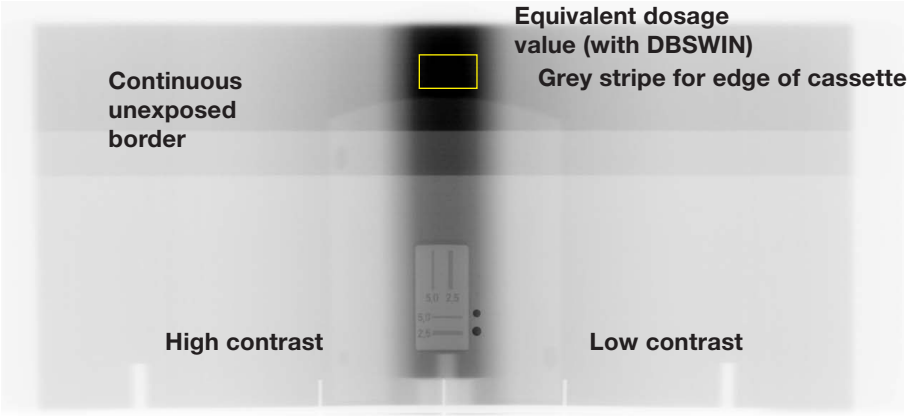
With Ceph devices



- Fasten the secondary absorber e.g. with adhesive tape onto the beamer Select the appropriate screen.
- Fasten the test element e.g. with adhesive tape in the centre of the film cartridge.
- Remove the soft tissue filter from the recording area.
- Trigger the recording

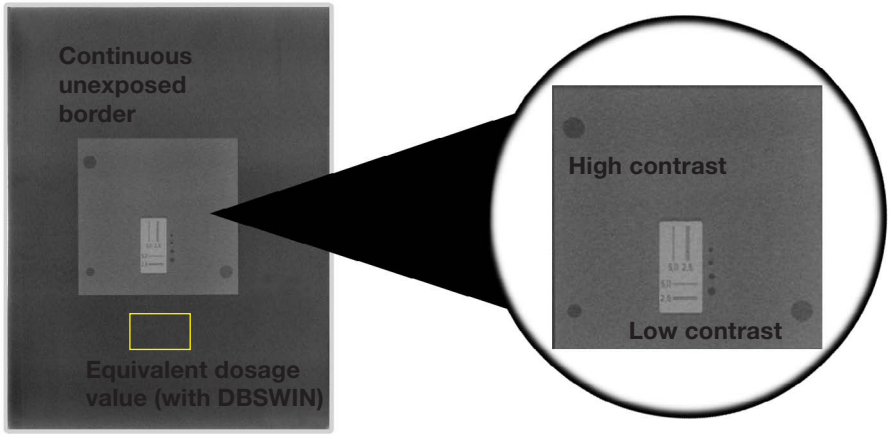
Evaluate test images

General x-ray



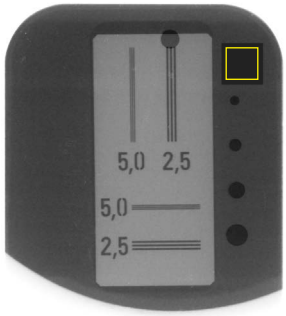
- The line structure (high contrast value 2.5) must be recognisable horizontally and vertically.
- In case of low contrast, the two largest contrast fields must be recognisable as different.
- An unexposed, surrounding edge must be recognisable on all four sides.
- The grey lines for the cartridge cycle must be parallel and even.
- The dose equivalent (relative grey scale) should be determined in a homogenous central grey scale range of the image.

Ceph

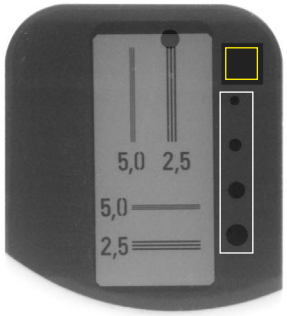


- The line structure (high contrast value 2.5) must be recognisable horizontally and vertically.
- In case of low contrast, the biggest contrast field must be recognisable as different.
- An unexposed, surrounding edge must be recognisable on all four sides.
- The dose equivalent (relative grey scale) should be determined in a homogenous central grey scale range of the image.

Intraoral



Reference recording



Constancy recording

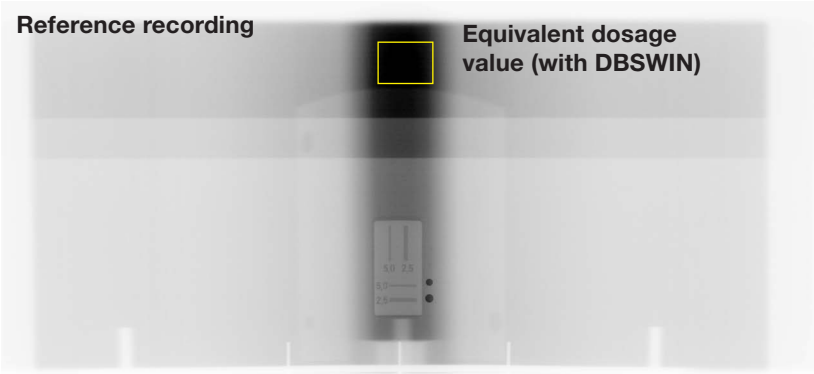
Equivalent dosage value (with DBSWIN)

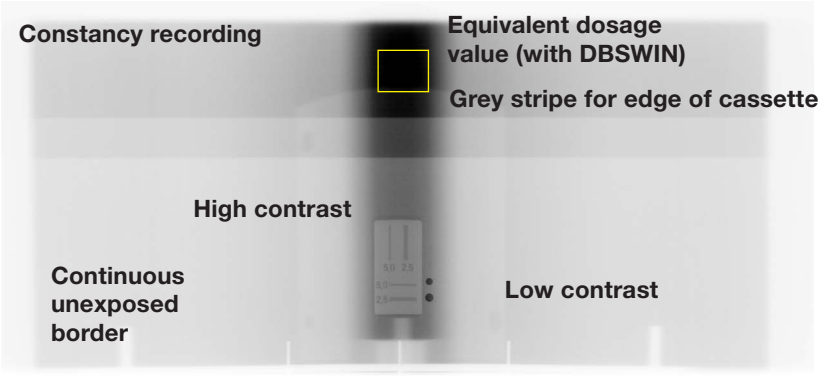
High contrast

Low contrast

- It must be possible to see the four bores (low contrast).
- The vertical and horizontal lines must be clearly separated from each other at 5 LP/mm (high contrast).
- Compare the dose equivalent with the reference exposure.

Extraoral

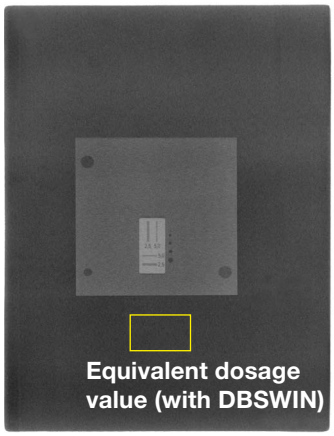




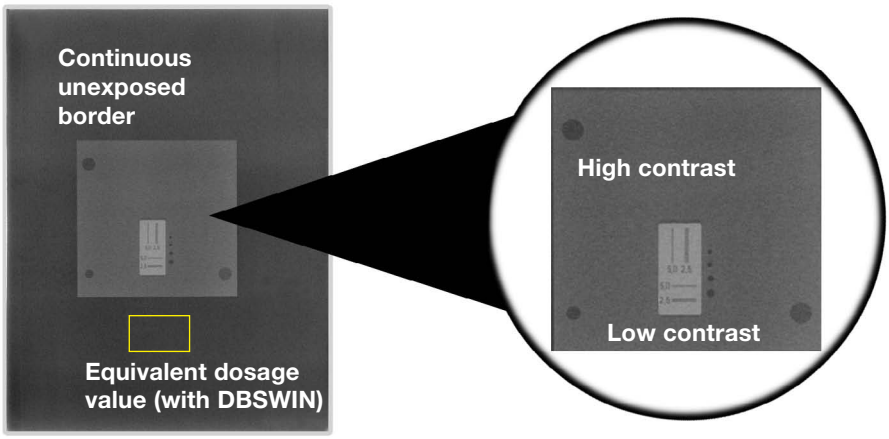
- The line structure (high contrast value 2.5) must be recognisable horizontally and vertically.
- In case of low contrast, the two largest contrast fields must be recognisable as different.
- An unexposed, surrounding edge must be recognisable on all four sides.
- The grey lines for the cartridge cycle must be parallel and even.

Ceph

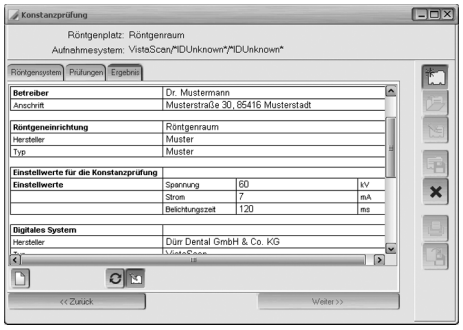
Reference recording



Constancy recording



- The line structure (high contrast value 2.5) must be recognisable horizontally and vertically.
- In case of low contrast, the biggest contrast field must be recognisable as different.
- An unexposed, surrounding edge must be recognisable on all four sides.



Fill in the test form and save it

- Enter all test results into the test protocol.
- Press option [Save]
- Confirm with [No].

After saving the values cannot be changed.

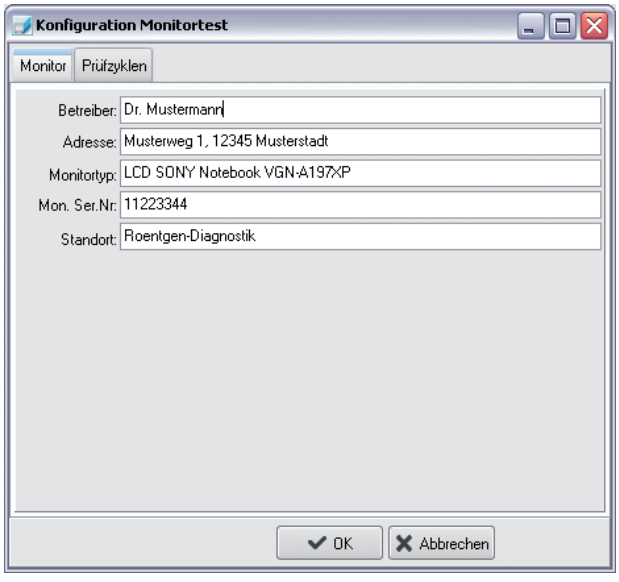
Image viewing appliance test with DBSWIN

General

The monitor checks can be carried with the SMPTE test by Dürr Dental.
The acceptance check of the monitor must be performed once at the first start of DBSWIN or following the installation of an X-ray device.

The acceptance check of the monitor may only be carried out by qualified personnel as special measuring devices are required. The monthly and daily check may be carried out by the surgery staff.

The results of the acceptance check and of the monthly check are stored automatically as files by the system and can be printed out as reports. In the acceptance test, only the individual test steps were saved without values (e.g. fog-light density). The results themselves must be recorded manually in the comment field of the test step and also in the Acceptance Test Form provided. The form files are located on the CD in directory "\DOCU\Forms“ and can be printed. In directory "\DBSDATA\montest“, the test results are saved in files in the respective monitor directory (serial number of the monitor).

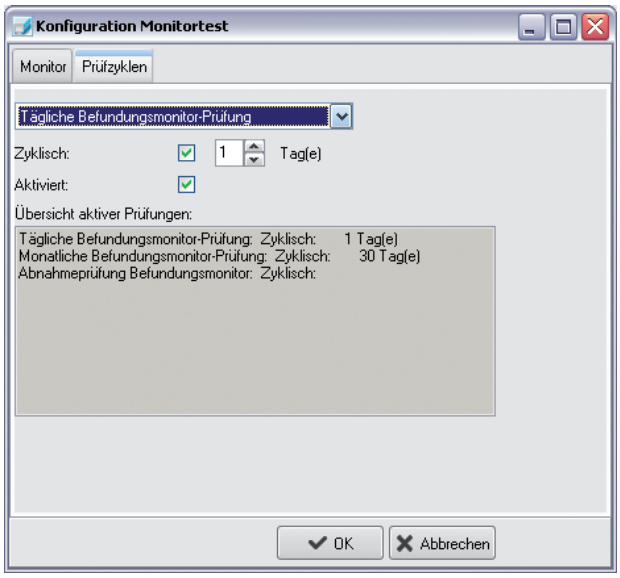


Configuration

At the first start of DBSWIN (only in Germany) or after opening the "Tests\Monitor test" menu item under DBSWIN, the configuration window appears. The automatic monitor test will be started only if the monitor has been activated for diagnostic purposes. This can be configured under "Configuration\Modules\DBSWIN\Option".

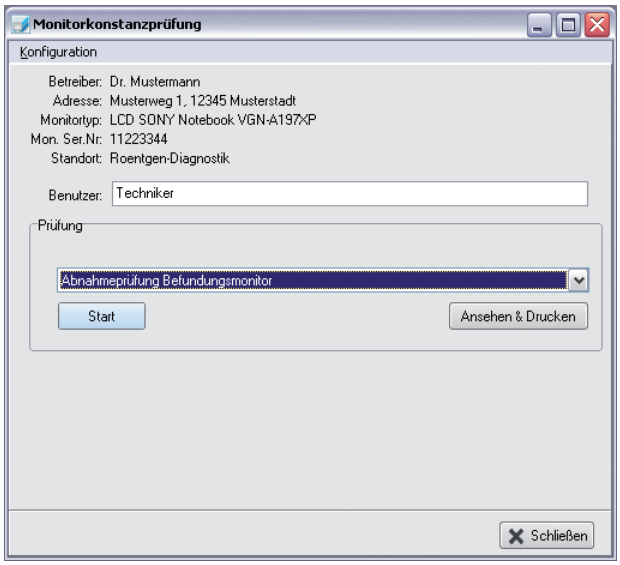
All fields except for location must contain an entry so that the window can be closed with "OK". Each available type of test (acceptance, monthly and working day) can be activated or deactivated and the relevant test cycle period can be set. If a test is to be carried out one time only then the test option cyclical is not set. This mode of test will not be monitored by the program automatically, as soon as the test has been carried out the once. Deactivation of a particular type of test procedure is only allowed when this is legally permitted under the laws of the country of operation!

Configuration example – for Germany



Select test

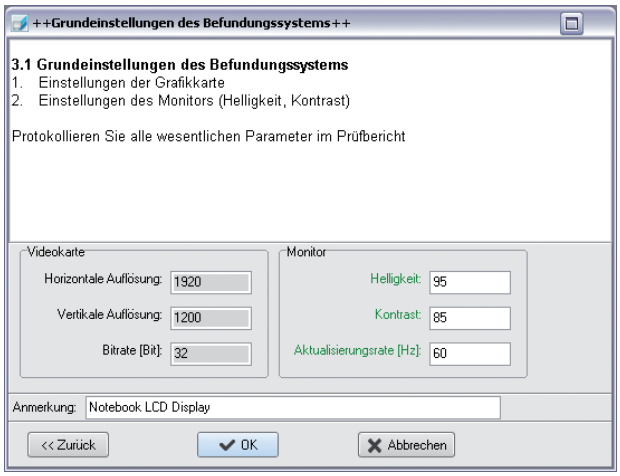
The type of test to be carried out, or

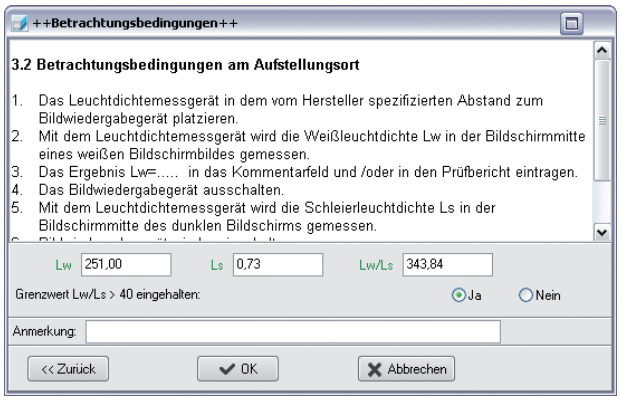


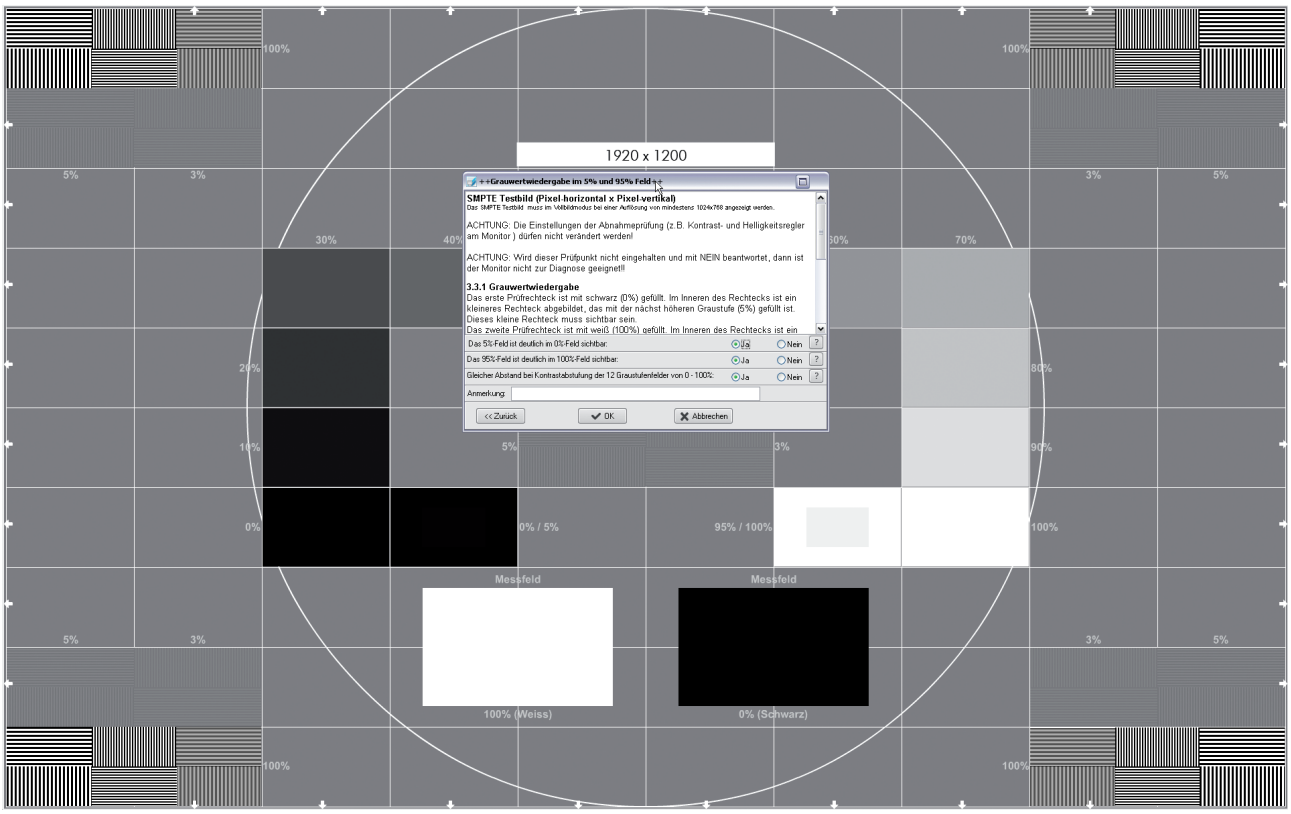
The daily and monthly checks are selected automatically when their relevant test cycle period is over. Each type of test can also be entered manually. To execute the selected test, click the "Start" button.

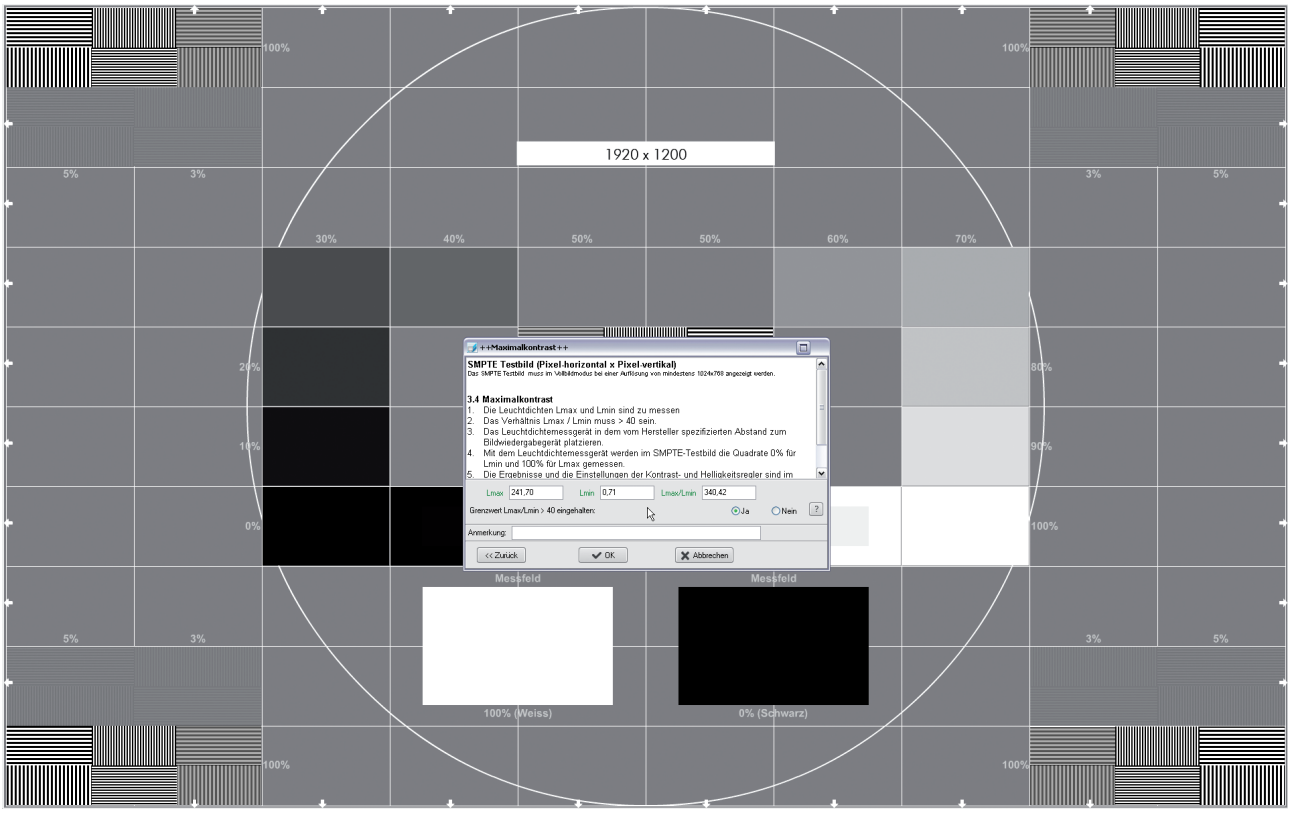
Start Test

Perform the test according to the instructions. The questions have to be answered with "Yes" or "No".

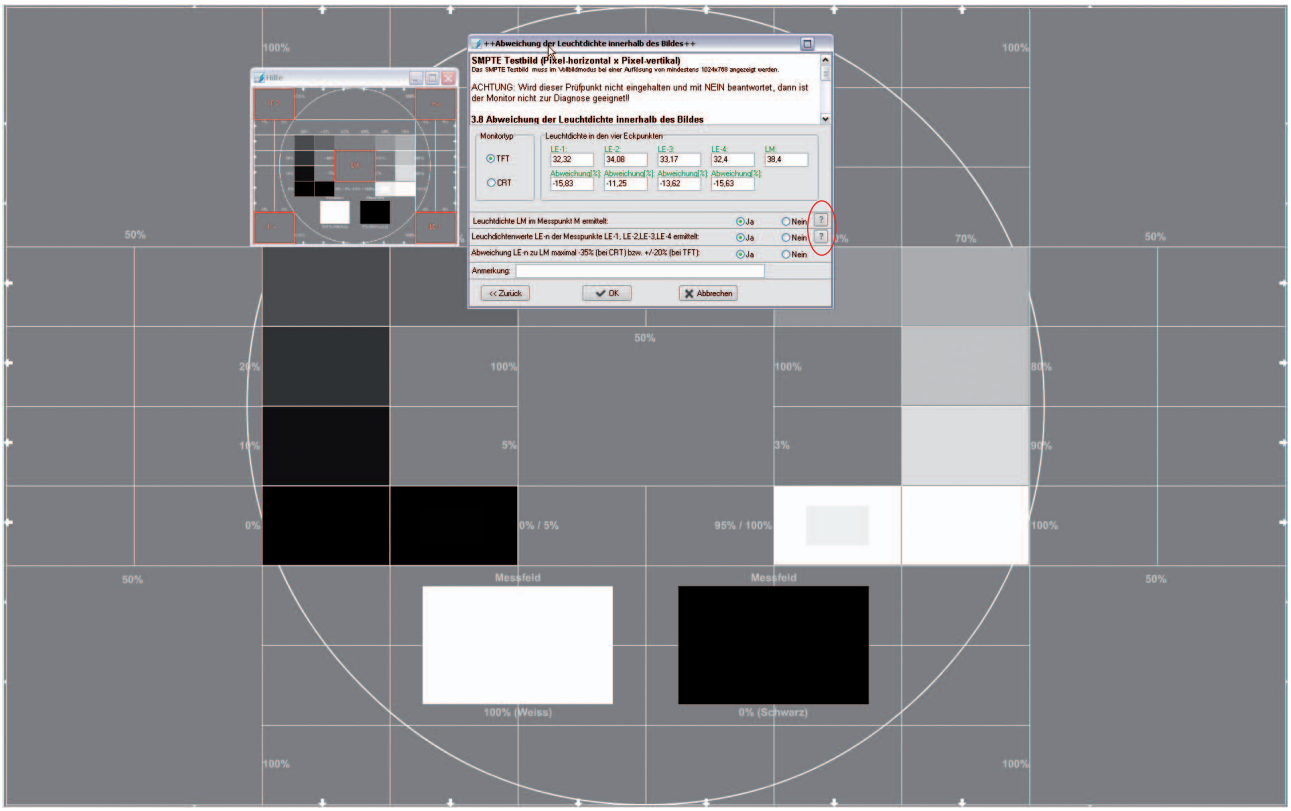


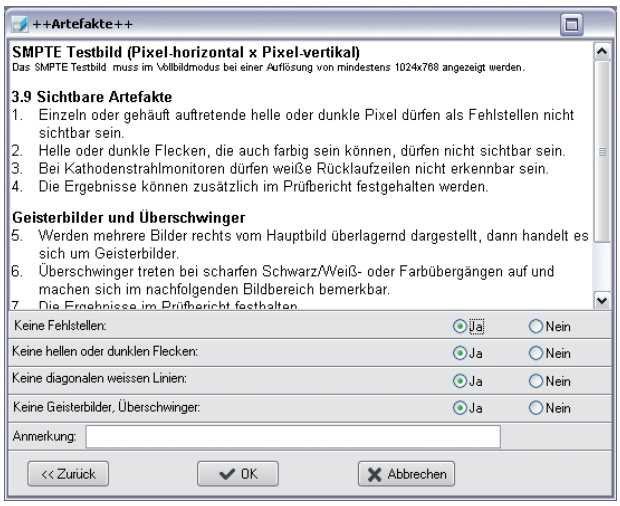


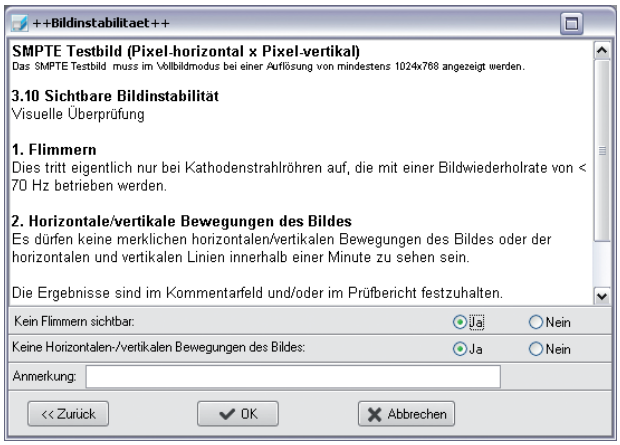

1920 x 1200
++Grauwertwiedergabe im 5% und 95% Feld++
SMPTE Testbild (Pixel-horizontal x Pixel-vertikal)
Das SMPTE Testbild muss im Vollbildmodus bei einer Auflösung von mindestens 1024x768 angezeigt werden.
ACHTUNG: Die Einstellungen der Abnahmeprüfung (z.B. Kontrast- und Helligkeitsregler am Monitor) dürfen nicht verändert werden!
ACHTUNG: Wird dieser Prüfpunkt nicht eingehalten und mit NEIN beantwortet, dann ist der Monitor nicht zur Diagnose geeignet!!
3.3.1 Grauwertwiedergabe
Das erste Prüfrechteck ist mit schwarz (0%) gefüllt. Im Inneren des Rechtecks ist ein kleineres Rechteck abgebildet, das mit der nächst höheren Graustufe (5%) gefüllt ist. Dieses kleine Rechteck muss sichtbar sein.
Das zweite Prüfrechteck ist mit weiß (100%) gefüllt. Im Inneren des Rechtecks ist ein
Das 5%-Feld ist deutlich im 0%-Feld sichtbar:
Das 95%-Feld ist deutlich im 100%-Feld sichtbar:
Gleicher Abstand bei Kontrastabstufung der 12 Graustufenfelder von 0 - 100%:
Ja
Nein
Anmerkung:
<< Zurück
OK
Abbrechen
0% / 5%
95% / 100%
Messfeld
Messfeld
100% (Weiss)
0% (Schwarz)


1920 x 1200
++Maximalkontrast++
SMPTE Testbild (Pixel-horizontal x Pixel-vertikal)
Das SMPTE Testbild muss im Vollbildmodus bei einer Auflösung von mindestens 1024x768 angezeigt werden.
3.4 Maximalkontrast
1. Die Leuchtdichten Lmax und Lmin sind zu messen
2. Das Verhältnis Lmax / Lmin muss > 40 sein.
3. Das Leuchtdichtemessgerät in dem vom Hersteller spezifizierten Abstand zum Bildwiedergabegerät platzieren.
4. Mit dem Leuchtdichtemessgerät werden im SMPTE-Testbild die Quadrate 0% für Lmin und 100% für Lmax gemessen.
5. Die Ergebnisse und die Einstellungen der Kontrast- und Helligkeitsregler sind im
Lmax
241,70
Lmin
0,71
Lmax/Lmin
340,42
Grenzwert Lmax/Lmin > 40 eingehalten:
Ja
Nein
Anmerkung:
<< Zurück
OK
Abbrechen
Messfeld
Messfeld
100% (Weiss)
0% (Schwarz)

In case of doubt, click the question mark next to the question. A help window then appears showing the position of the elements to be tested.







VistaCam



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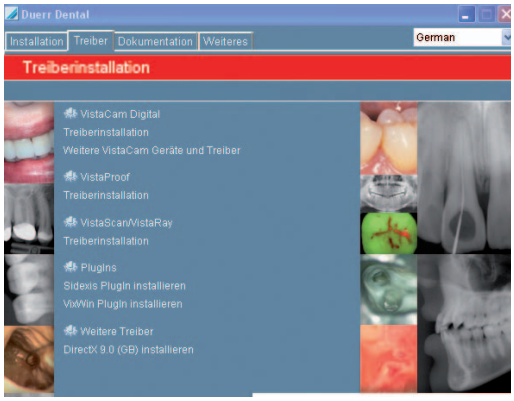
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Tips for Operators and Technicians

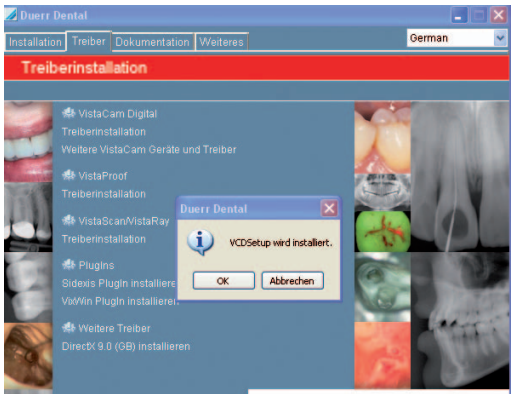
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VistaCam Digital and VistaProof Installation and Configuration

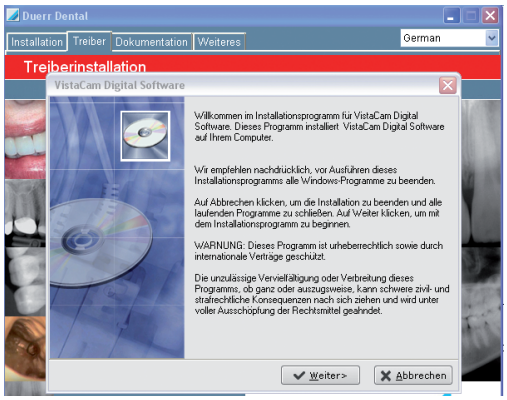
Installation of drivers



- Place the supplied CD-ROM in the drive. If the program does not start automatically, open the "CE_Start.exe" file on the CD-ROM.



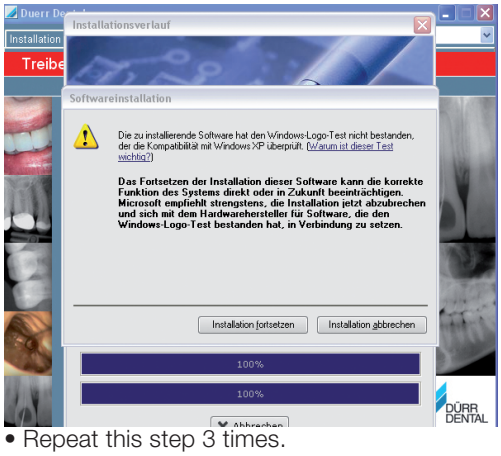
- Select the "Drivers" tab.
- Select the desired language.
- Select the "VistaCam Digital“ or "VistaProof“ driver installation.
- Run "Install VCDSetup“.



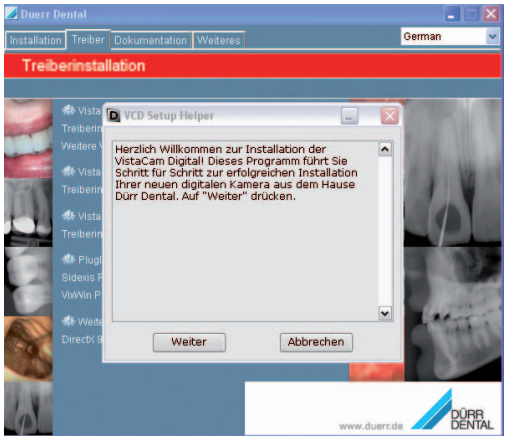
- Close all running DBSWIN programs.
- Select the "VistaCam Digital“ or "VistaProof“ driver installation.
- Run "Install VCDSetup“.



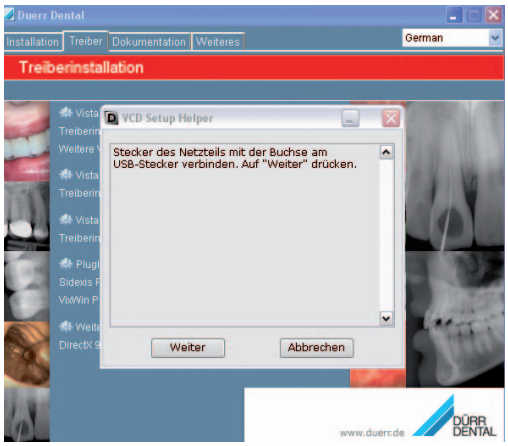
- Follow the installation progress.



- Repeat this step 3 times.
- Click on "Continue installation“.



- Read VCD Setup Helper and click on "Next".

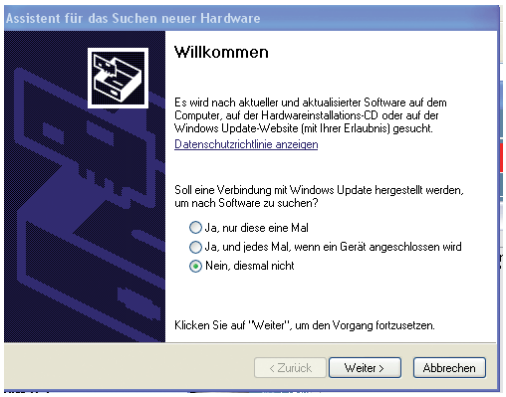


• Click on "Next".

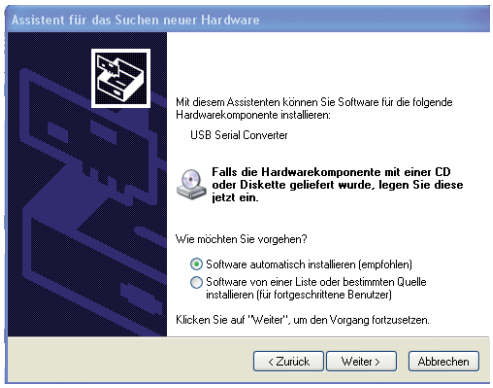


• IMPORTANT!!!! DO NOT click on "Next". FIRST plug in the USB plug connector on the PC and wait for the Windows driver assistant.

• Click on "Next".



• Select "No, not this time" and continue with "Next".



• Select "Install software automatically" and click on "Next".

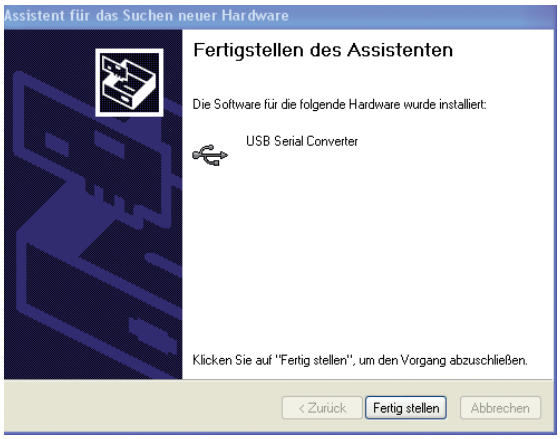


• Repeat this process 3 times for driver installation "USB Serial Converter" for VistaCam Digital or VistaPROOF.

• Click on "Next".



• Click on "Continue installation".



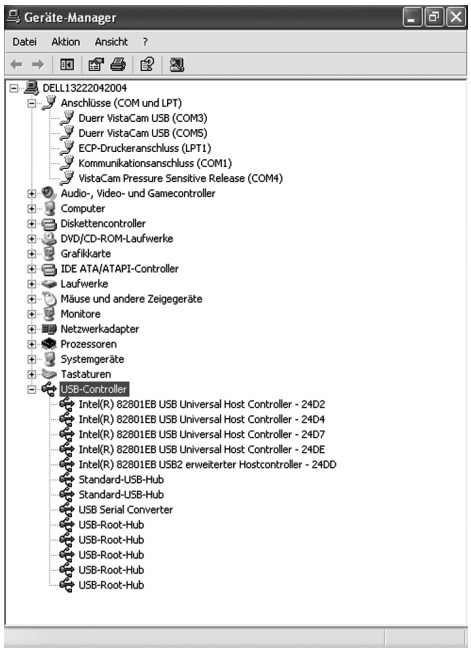
- 3 drivers are installed: USB Serial Converter, Dürr VistaCam USB, & VistaCam Pressure Sensitive Release.
- Click on "Finish".



- VistaCam is switched on & the driver is installed.
- Click „Continue“ .



- Click on "Next" and close the installation.



Check the driver in the device manager.

- Open the device manager (right click on My Computer, Properties, Hardware, Device Manager).
- The check is successful when the following entries are displayed correctly:

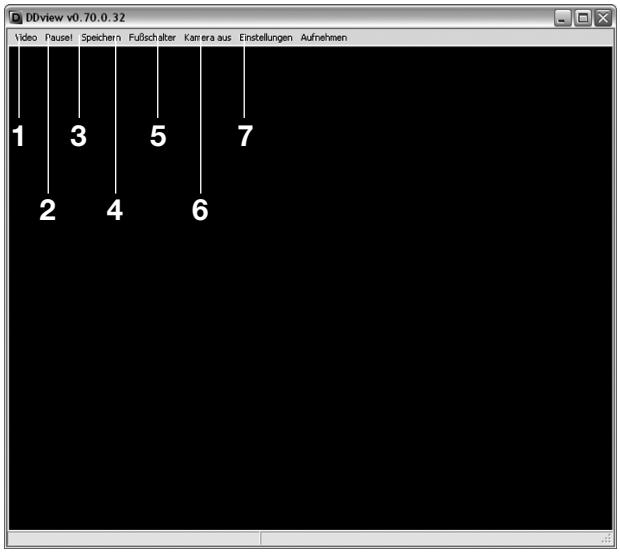
Under Connections:

- VistaProof Pressure Sensitive Release

Under USB-Controller:

- USB Serial Converter

DDView Camera Setting

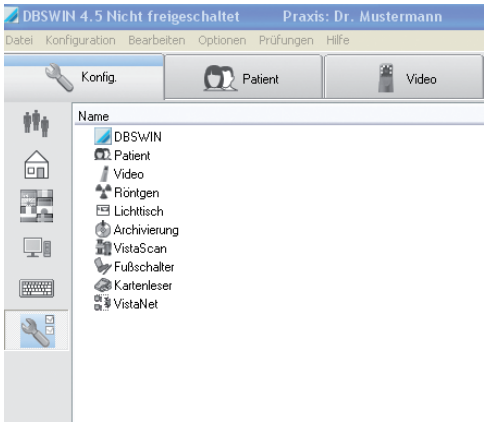


Function test and settings with DDView

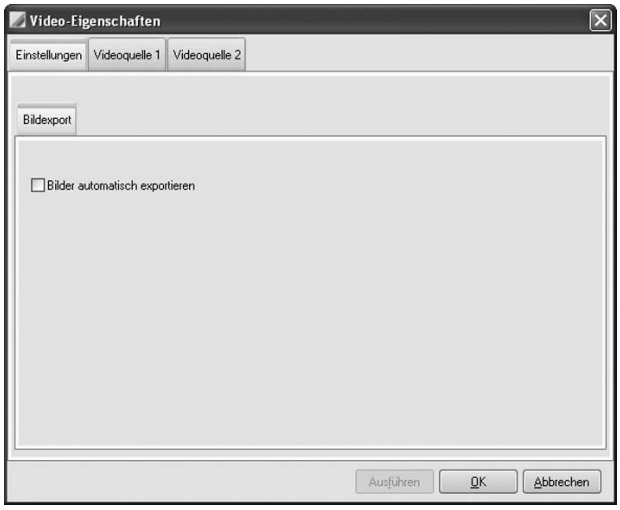
- Open DDView using "Start/Programs/Duerr Dental/VistaProof/DD-View“.

1. Video	Select input signal or camera type and resolution
2. Pause	Freeze/release image sequence
3. Save	Save images
4. Foot pedal	Define allocation and port

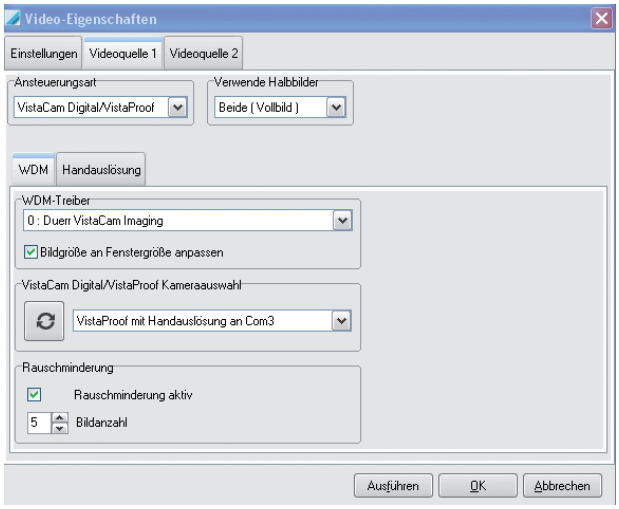
VistaCam - Setting in DBSWIN



- Start DBSWIN --> Options --> Display configuration --> Video module.



- Select the purchased camera in the actuation type. The driver is selected automatically.
- Select the function "Both full frames“.
- A second camera with the same configuration steps can be installed under Video source 2.
- Click on "Run" and confirm with "OK".



Module: Video-properties

Settings tab

If the function „Automatically export image“ is activated, then every video image stored in the data base will be copied to a selected directory. The actual route path, file format and other settings are made under „Light-table Properties“ in menu „Export/E-Mail/Export options“ in „Autoexport“ mode.

Video source 1 and Video source 2 tab

If VistaProof is the only camera connected to the computer then the settings must be made under "Video source 1“.
If VistaProof is the second camera connected to the computer then the setting must be made under "Video source 2“, as "Video source 1“ is taken up by the first camera.

- Under "Actuation type", select "VistaCam Digital/VistaProof".
- At option „Use half frames“ select „Both (full image)“.

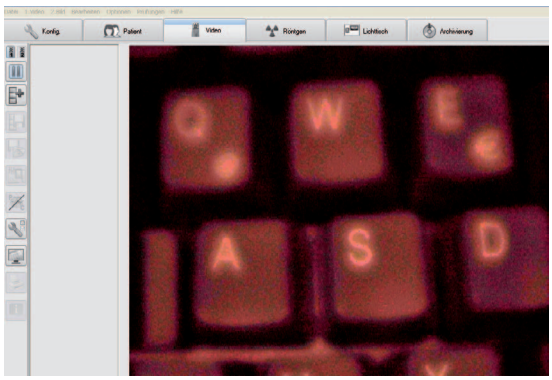
WDM tab

WDM-driver
All WDM-drivers installed on the system will be displayed. The VistaProof driver will be selected automatically.

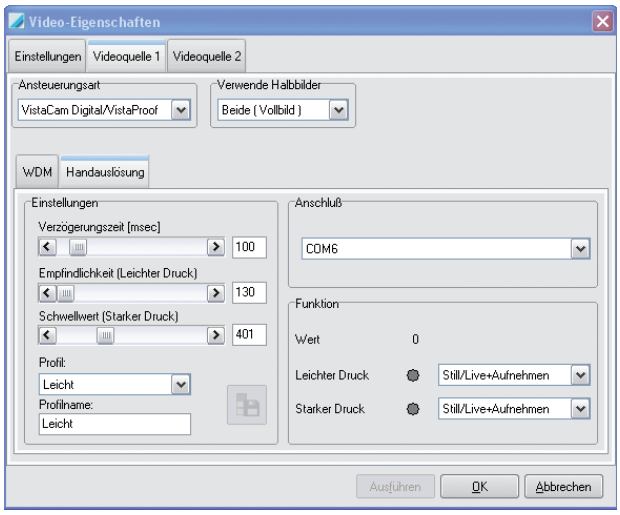
VistaCam Digital und VistaProof camera selection
Every connected digital VistaCam is shown. The list of connected cameras can be updated with the button "Update camera list".

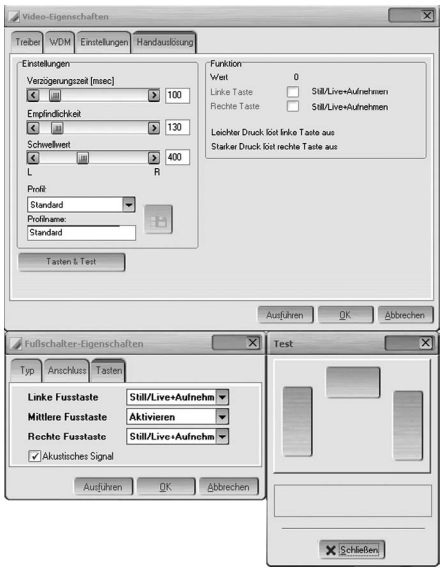
- Select the newly connected camera under "VistaCam Digital / VistaProof camera selection“.

Noise reduction
When recording an image a picture is produced by collating a set number of images produced over a preset period of time. From this set of images a new image is created which should be as free of any interference as possble.



- **IMPORTANT!!!!** DO NOT click on "Next“. FIRST plug in the USB plug connector on the PC and wait for the driver assistant.
- Click „Continue“ .





Module: Video-properties

Driver tab

- Select the option [VistaCam Digital] in the selection field.
- Under [Chosen half-frame] choose the option [Both (full frames)].

WDM tab

- The driver "VistaCam Imaging" has to be entered in the selection field [WDM driver]. If there is not any driver, search the driver via the "Search VistaCam Digital" button.

If the checkmark in the field "Adapt image size to window size" is set, the image is scaled to the monitor resolution. This might influence the image quality.

Settings tab

By activating the export function, all currently saved images are automatically exported from DBSWIN to a predefined directory.

Manual release tab

- The interval between pressing the manual activation and the recording of the image can be defined in msec. under delay time. The delay time prevents blurring of the image that is caused by the movement when triggered.
- The minimum force required for the manual activation to react can be set under sensitivity.
- The force from which the manual activation has to switch from slight to strong pressure can be set under threshold value.

The range between the force set under sensitivity and the one set under threshold value is processed as slight pressure.
Values above the threshold value are processed as strong pressure.

- Check the settings made on the right side under function by pressing the manual activation.

In case of slight pressure, a checkmark appears in the field "Left key", with strong pressure in the field "Right key". Furthermore, the pressure power is displayed.

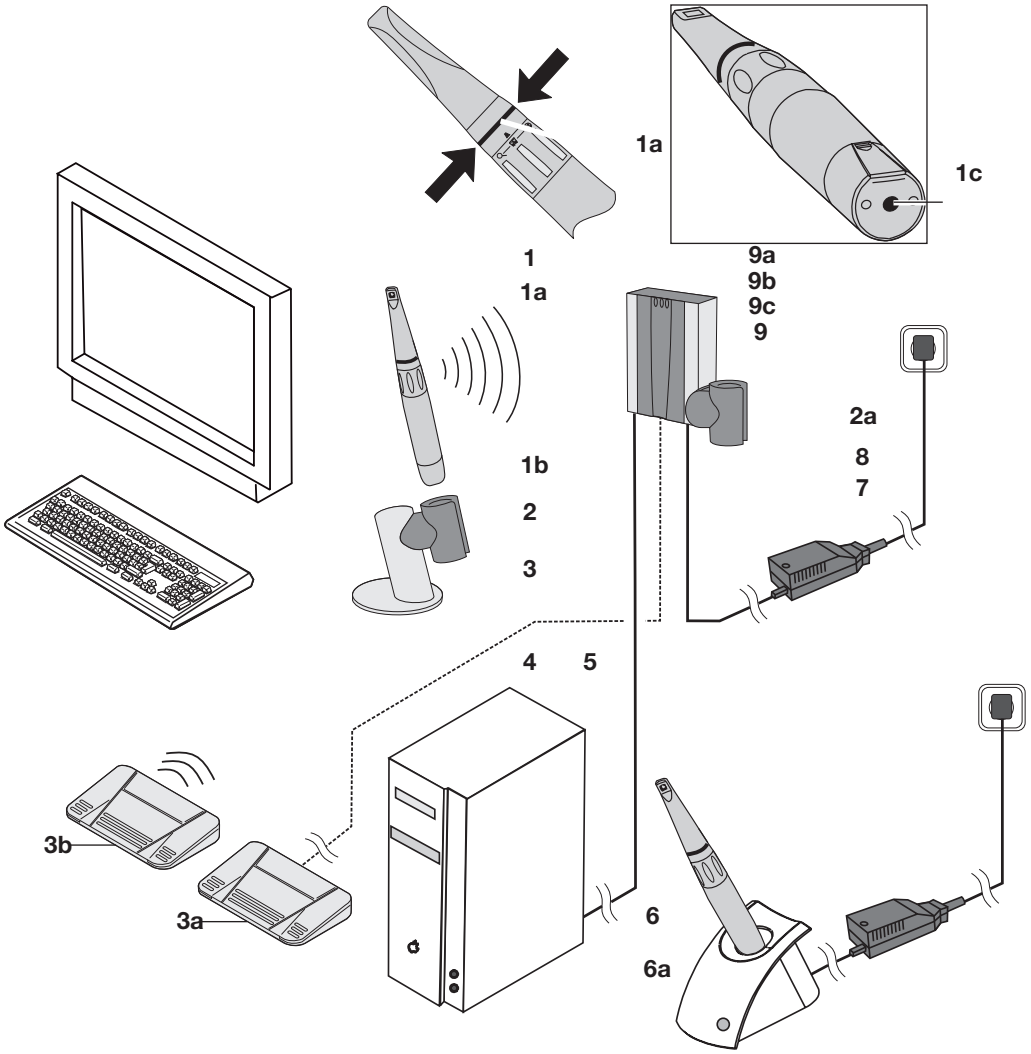
- Confirm settings with [accept] and [OK]. Restart DBSWIN.

Button keys & test

- Determine the functions of the pressure powers.

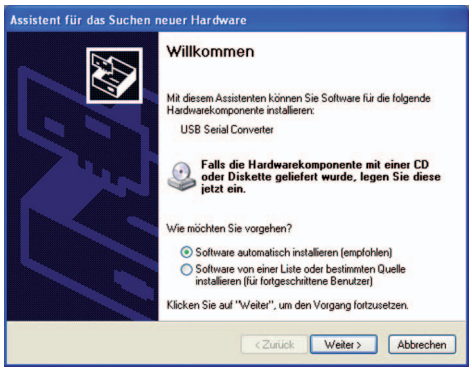
As the manual activation has the same characteristics as a foot pedal, a slight pressure onto the pressure-sensitive ring is the same as pushing the left foot pedal, a strong pressure works the same as the right foot pedal.

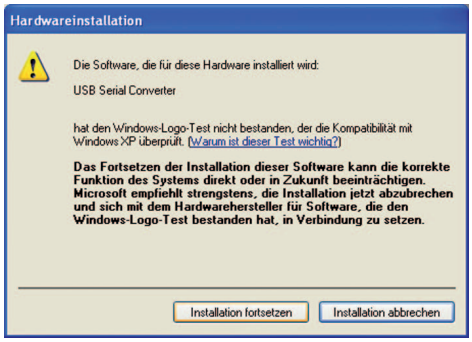
VistaCam CL.iX
Function display

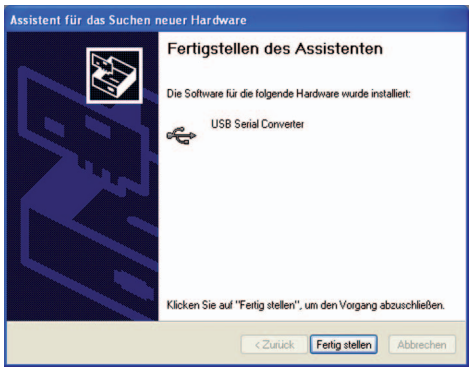


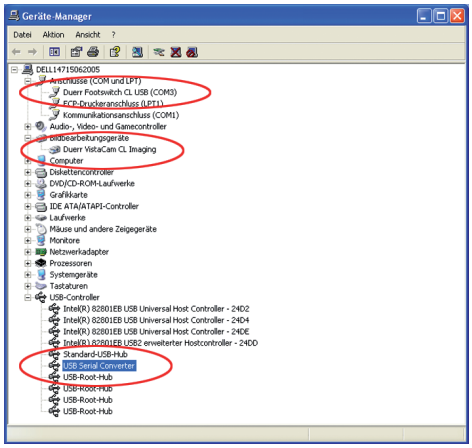
(1) VistaCam CLiX handpiece
(1a) Mmanual release
(1b) Handpiece rechargeable battery pack
(1c) ON / OFF switch
(2) Free-standing handpiece holder (optional)
(2a) Handpiece holder mounted on base station (optional)
(3) Cable to foot pedal unit
(3a) Cable operated foot pedal switch unit (optional)
(3a) Radio operated foot pedal switch unit (optional)
(4) PC
(5) USB 2.0 connection cable
(6) battery charge station
(6a) LED, green
(7) Power unit with connection cable
(8) Mains cable
(9) Base station
(9a) LED, green
(9b) LED, blue
(9c) LED, yellow

Installation and Configuration









Installation of drivers

- Place the CD-ROM (e.g. DBSWIN from Version 4) supplied in the drive. If the program does not start automatically, open file „install“ on the CD-ROM.
- Close the Auto-Start window of the CD-ROM.
- Close VistaCam CL.iX:
- Connect the network connection.
- Connect the USB connection.

The camera should be recognised and the driver installation will start automatically.

The following steps must be carried out three times.

- „Search for driver on Internet“ should be closed with „No, not this time“.
- Respond to „Hardware Assistent for new hardware“ by choosing „ Automatically install software “ and „Next“.
- When the warning for Windows-Logo-Test appears confirm with „Continue installation“.
- Complete driver installation with „Finish“.

Check the driver in the device manager.

- Open manager under Windows

With Windows XP: right hand mouse click on My PC/Properties/Hardware/System Manager.
With Windows Vista: right hand mouse click on Computer/Properties/Hardware/System Manager.

- The check is successful when the following entries are displayed correctly:

Under Connections:
- Duerr Footswitch CL USB

Under Image editing appliance:
- Duerr VistaCam CL Imaging

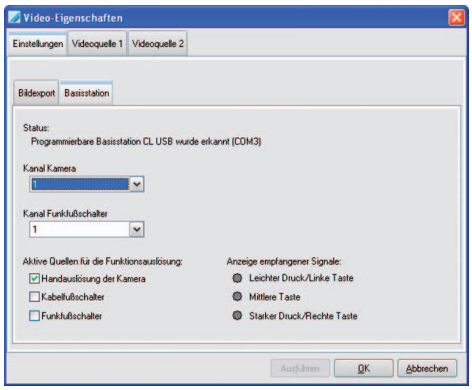
Under USB-Controller:
- USB Serial Converter

DBSWIN settings

- Start DBSWIN
- In menu [Options] select the line [Display configuration].
- Click on [modules] on the left tool bar.
- Double-click on symbol [Video] from the selection list.

Module: Video-properties

Settings tab



Export image

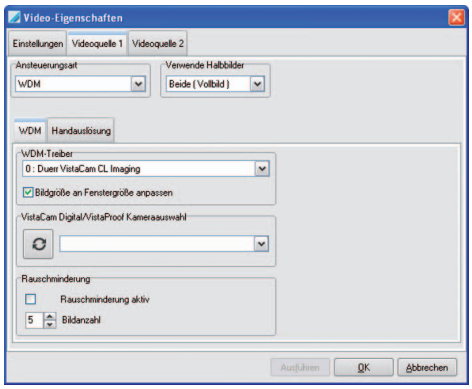
If the function „Automatically export image“ is activated, then every video image stored in the data base will be copied to a selected directory. The actual route path, file format and other settings are made under „Light-table Properties“ in menu „Export/E-Mail/Export options“ in „Autoexport“ mode.

Base station

In menu point „Status“ then „Programmable Base station CL USB recognised (COMXX)“ must be displayed.

- Write down the address of the COM-Port given in brackets.

Video source 1 and Video source 2 tab



If VistaCam CL.iX is the only camera connected to the computer then the setting must be set up under „Video source 1“.
If VistaCam CL.iX is the second camera connected to the computer then the setting must be set up under „Video source 2“, as „Video source 1“ is taken up by the first camera.

- From option „Ansteuerungsart“ select „WDM“.
- At option „Use half frames“ select „Both (full image)“.

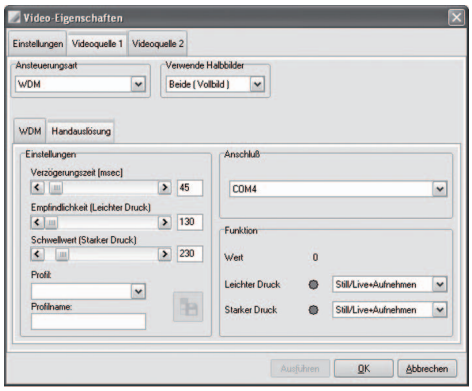
WDM tab

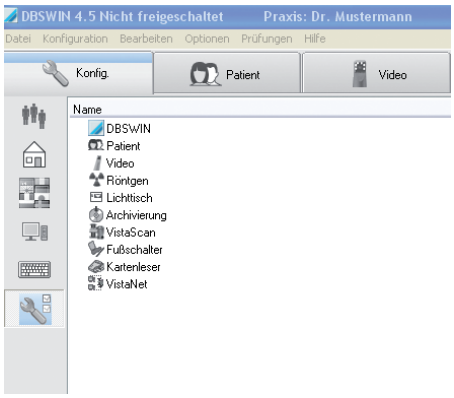
WDM-driver

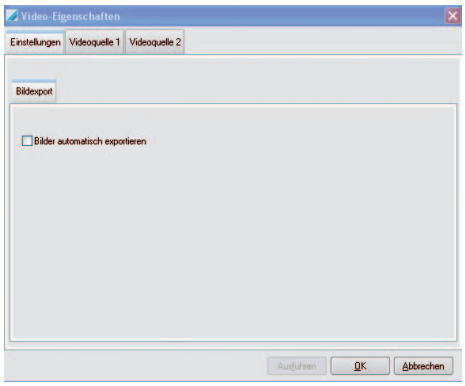
All WDM-drivers installed on the system will be displayed. The VistaCam CL.iX driver will be automatically selected. If the correct driver is not selected automatically then choose „Duerr VistaCam CL Imaging“.

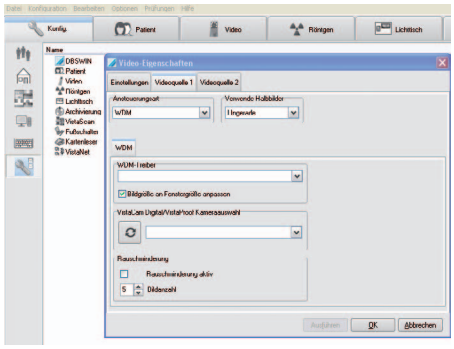
Noise reduction

When recording an image a picture is produced by collating a set number of images produced over a preset period of time. From this set of images a new image is created which should be as free of any interference as possble.









Manual release tab

In option Connections write in the COM-Port chosen.

The manual shutter release is a standard factory setting. Further settings can be chosen if required:
- Low
- Medium
- Strong

Start

- Click [Start], [Program Files], [VistaScan] and [Vista-ScanConfig].
- Start DBSWIN without a password as user [Standard] .

Configuration module [VistaCam]

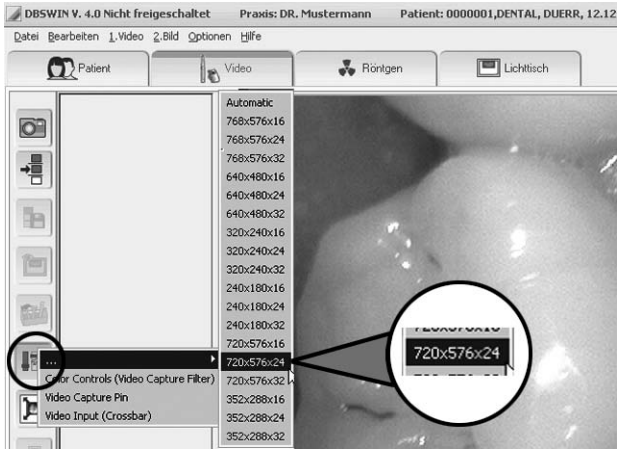
- In menu [Options] select the line [Display configuration].
- Click on [modules] on the left tool bar.
- Double-click on [Video] in the right window.

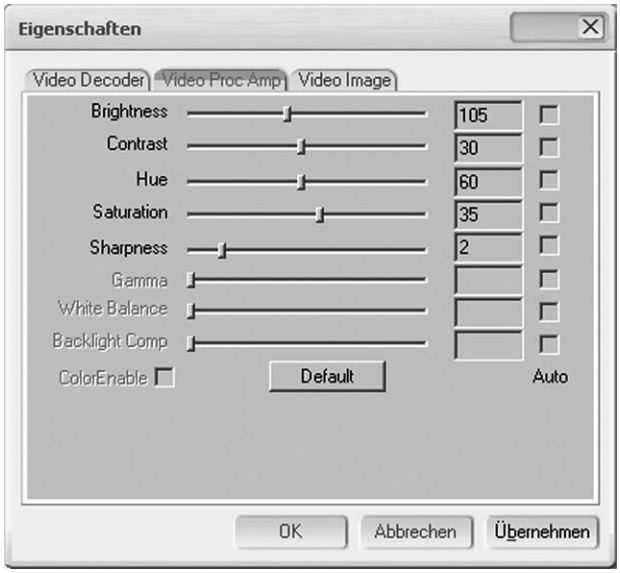
Video driver WDM

- Under [Driver] in folder [Select] choose the option [VfW].
- Under [Chosen half-frame] choose the option [Both (full frames)].
- With [WDM], the driver "Duerr VistaCam Imaging" has to be entered in the selection field [WDM driver].

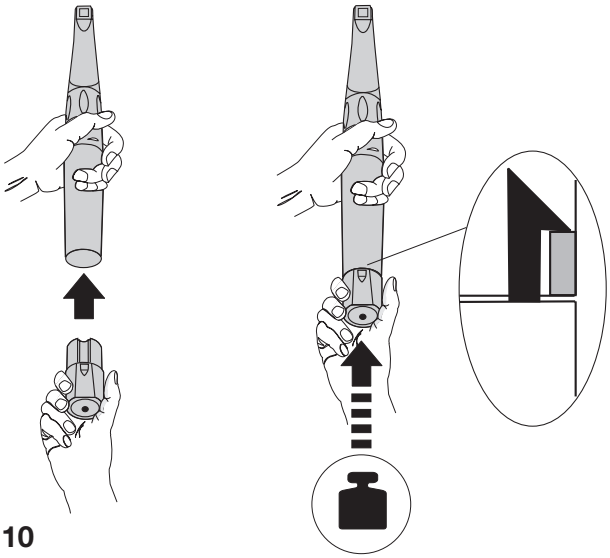
The checkmark in the field "Adapt image size to window size" has to be set.

- Confirm settings with [accept] and [OK].
- Click on the button "Video colour regulation".
- Adjust the resolution to 720x576x24
- Click on the selection field "Colour controls".
- Click on the tab "Video Proc Amp“.
- In order to optimise the colour reproduction, set the following parameters +/- 5:

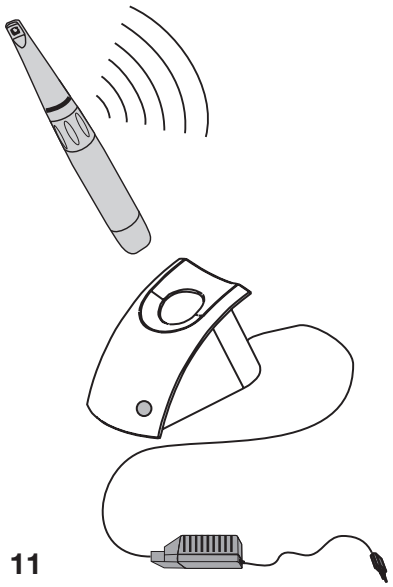




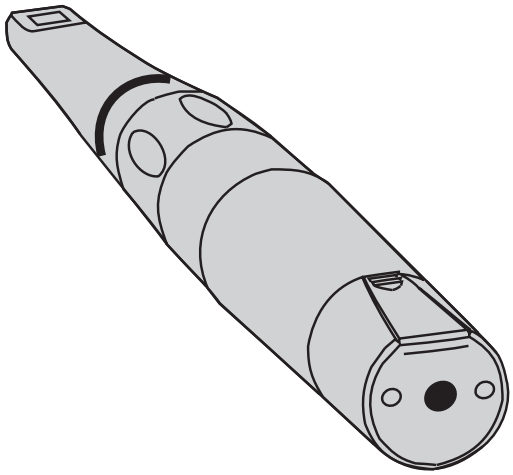
Brightness: 105
Contrast: 30
Hue:60
Saturation: 35
Sharpness: 2



10



11



12

Starting up VistaCam CL.iX

Do not put the appliance into operation immediately.
The appliance should be allowed to reach room temperature.
Temperature differences can lead to the build up of condensation which could destroy the electronics when the unit is switched on.
The appliance must not be used in any way that gives concern regarding safety!
The appliance may only be operated in a safe and functional condition.

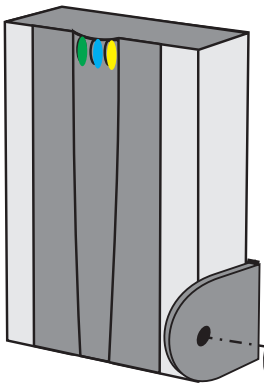
Always handle the handpiece (1) carefully. It must not be allowed to fall. Scratches or dirt on the optical lens will lead to a high loss in image quality.

- Place the rechargeable battery pack (1b) into the handpiece (1).
- Place the handpiece into the battery recharging unit (6).

green LED (6a) **blinks**	fast charging mode running.
green LED (6a) **l**it	battery charged unit Ready battery is fully charged after ca. 1.5 h.

- Switch on PC
- Switch on monitor.
- Install software.
  Refer to "Installation and Configuration of VistaCam CL.iX with manual release", order number 9000-618-123/01
- Start DBSWIN
- Remove the handpiece from the battery charger unit (6).
  The VistaCam CL.iX switches on automatically.
- Select Video-mode.
  - The live image is now displayed on the monitor.

The image is presented in normal viewing mode.
The mirror inversion mode can be chosen if reverse imaging is required by activating the monitor imaging as follows:
- Press switch (1c) 2 x briefly

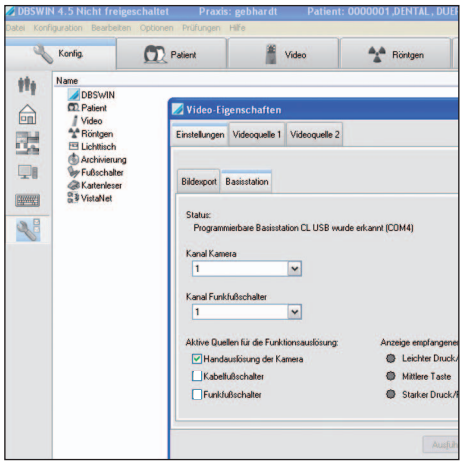


13

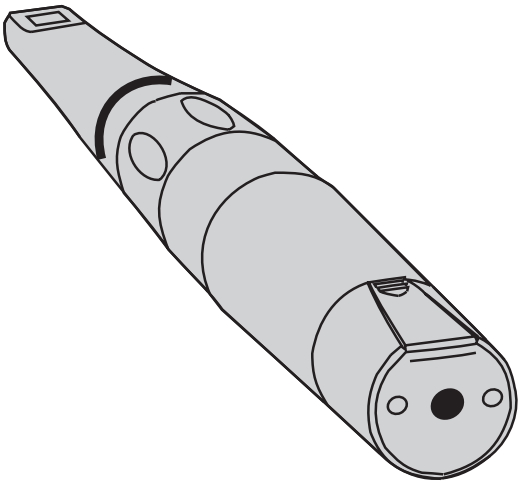
LED's on the base station

green LED (9a) lit	camera **r**eady
blue LED (9b) lit	**radio signal connection** established between camera (switched on) and base station.
yellow LED (9c) lit	transmission of data between camera and PC, e.g. when live images are seen on the monitor.

The green and yellow LEDs light even if the camera is switched off.



14



15

Channel setting

In multi-station operation or with radio interference, a channel setting is performed on the handpiece, in DBSWIN and on the cable foot switch/wireless foot switch (optional).

The channel setting in DBSWIN must, however, be identical to that at the handpiece.

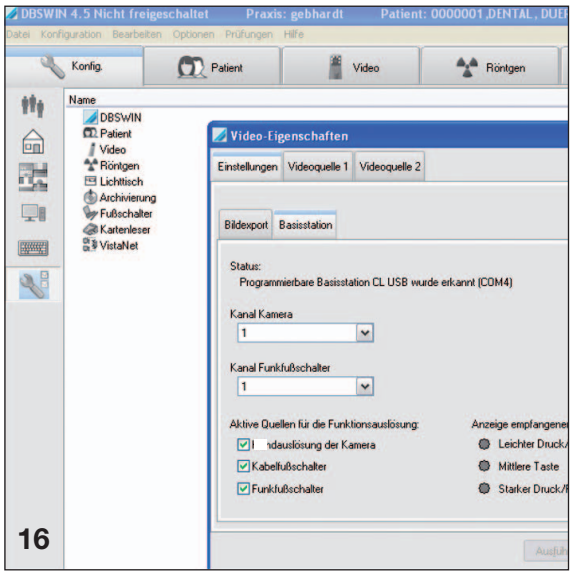
Channel setting in DBSWIN

- open DBSWIN
  - folow the display Option - Configuration
  - Video
  - Video set up/ Settings
  / Base station
- Under "Camera Channel" (11) it is possible to set the channel required from 1-5.
  Choose the same channel on the handpiece, see section 10.2.2
- Place a tick (check) in the box "Camera Manual Release" (12).

Channel setting on handpiece

- Switch off handpiece (1) at switch (1c).
- Hold button (1) down until the LEDs (1d) flash:
  1x flash = channel 1
  2x flashes = channel 2,
  3x flashes = channel 3, etc.

  As soon as the blue LED LED (9b) illuminates, the identical channel setting is made.



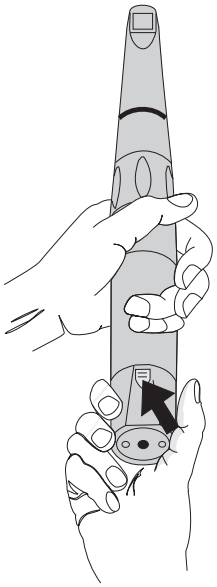
Channel selection with connected cable foot switch/wireless foot switch (optional)

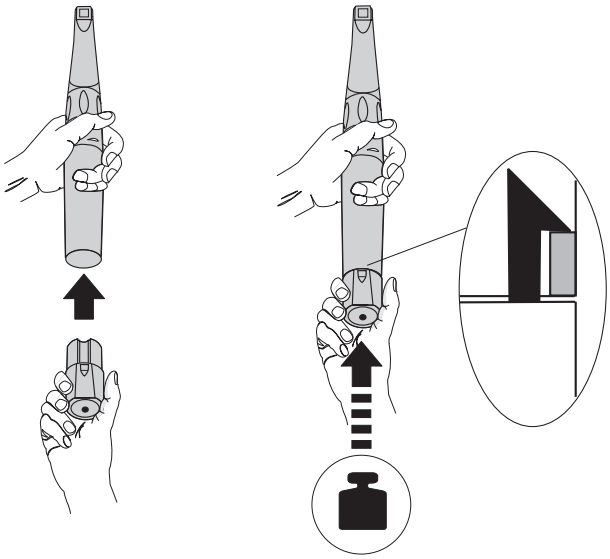
- Under "Foot Pedal Channel" (13) it is possible to set the channel required from 1-8.
  Choose the same channel on the handpiece, see section 10.2.2
- Place a tick (check) in the box "Radio-operated Foot Pedal" (14), or "Cable operated Foot Pedal".

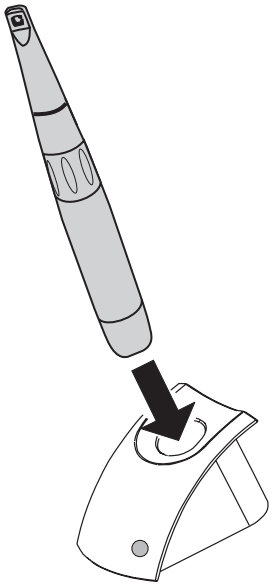
For optimum operation of the camera check that only units being used are checked (i.e. with a tick).

Start Test

After commissioning or set up of the VistaCam CL.iX carry out all testing according to standards IEC 60601-1, e.g. for patient conductivity, etc, and document.







Maintenance

Only use Original Equipment Manufacturing spare parts for repairs, otherwise guarantees and warranties may be infringed.
Provide for a safe and ecologically correct disposal of all replaced parts.

Changing the battery pack

- Press the clip contact (20) and extract the rechargeable battery pack (1b).
- Put fresh rechargeable battery pack in place.
- Place the handpiece into the battery recharging unit (6).

green LED (6a) **blinks**	fast charging mode running.
green LED (6a) **l**it	battery charged unit Ready battery is fully charged after ca. 1.5 h.

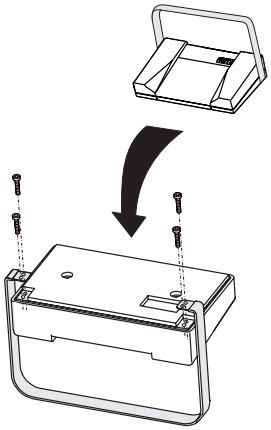
- Dispose of used rechargeable battery packs correctly. See section „1.3 Appliance disposal“

Maintaining batteries

- In order to gain the maximum possible life from the battery it is advisable to completely discharge the battery every 3 months and then completely recharge.
- In order to minimise damage to the VistaCam CL.iX rechargeable battery pack the rechargeable battery pack should be removed:

- any break of 4 weeks or longer in use (e.g. holiday)
- transport (e.g. repair)

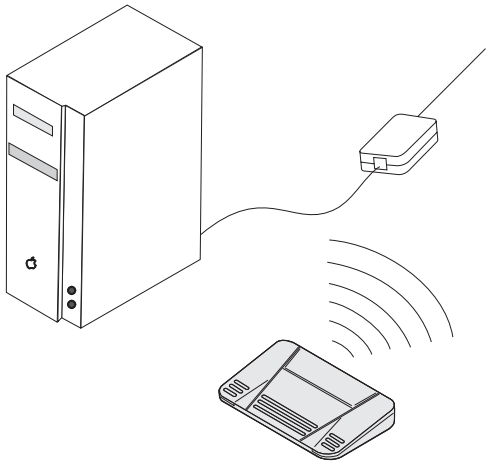
Radio foot switch
Installing the support



- Mount the support using the 4 screws supplied to the rear of the radio foot switch

Installation and configuration of wireless foot switch with USB

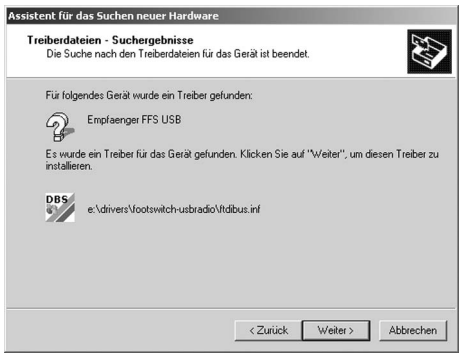
Installation of drivers



- Switch on the computer and start Windows.
- Connect the USB connection of the radio foot switch using the USB cable to the USB connection of the computer.



- Windows detects that a new appliance (USB High Speed Serial Converter) has been installed and opens the hardware wizard.



- Depending on the operating system, choose the option allowing manual installation and confirm with "Next".
  Windows XP: "Search for a suitable driver“
  Windows 2000: "Install from a list or specific location“
- Insert the DBSWIN CD-ROM with the USB driver (from Version 3.1.18) and interrupt the automatic installation.
- Depending on the installed operating system, select the appropriate CD-ROM drive letter and use the hardware wizard to select the directory \DRIVERS\Footswitch USBRadio and confirm with [Next].
- Windows detects the presence of a second appliance (receiver FFS USB) and opens the hardware wizard again.
- Repeat steps 4 and 6.

Installation with PC

In order to operate VistaCam or VistaCam CL via PC, a frame grabber card is required to digitalise the video signal in the PC. We strongly recommend the usage of the Dürr HighEnd frame grabber board.

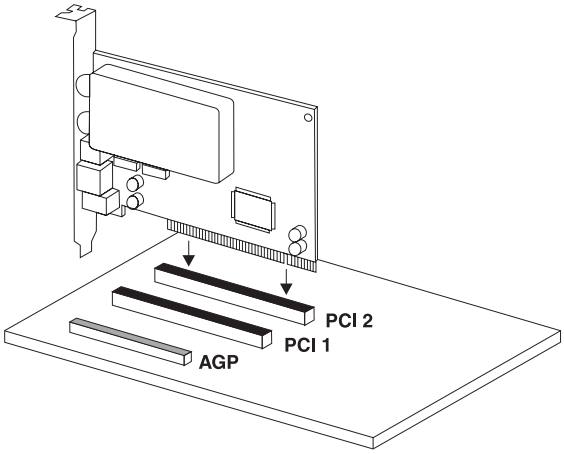
The PC must fulfil the minimum system requirements.

PC installation of VistaCam is set out in individual steps.

Should any problems occur during installation of VistaCam / VistaCam CL, these steps can be carried out to solve the problems.

Installing the frame grabber board in the PC

- The frame grabber board is plugged in a free PCI slot in the PC.



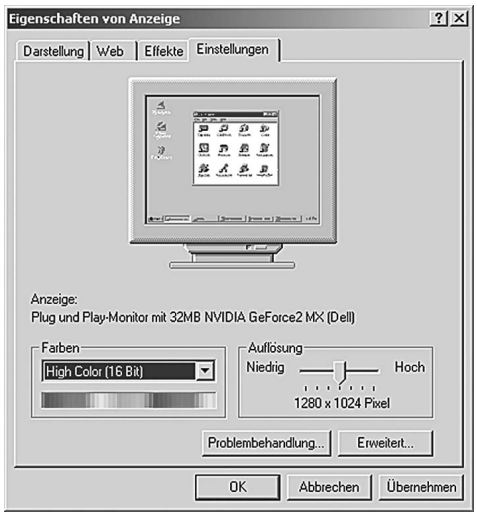
Do not use the first PCI slot (next to the AGP slot) for frame grabber cards. With some main boards, problems with the bus master function (IRQ Sharing) can arise (e.g. ASUS P2BF).

Install the software components of the frame grabber board

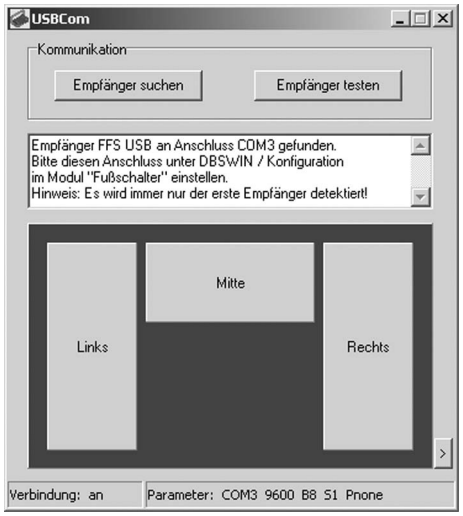
- Boot the PC. After starting the PC, close the hardware assistant which will start automatically.
- Install the software which is supplied with the frame grabber board on the PC.
- Depending on the manufacturer of the driver the PC will automatically install it or the driver must be installed manually using the hardware assistant

. Graphics board settings

The depth of colour should be set at least 16 Bit.
The resolution should be at least 1024x768 Pixel for a 17“ monitor, and 1280x1024 Pixel for a 19“ monitor.
TFT PC monitors must always be set to the native resolution.



- Right-click on the desktop symbol.
- Click Features in the pull down menu.
- Click on the Settings tab.
- Enter the settings given above.

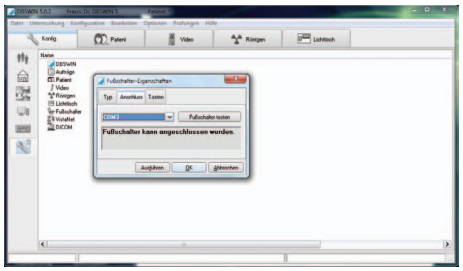


Function test

- Start the software USBCOM by double-clicking file "USBcom.exe“ in directory \TOOLS\Footswitch USBRadio on the DBSWIN CD-ROM.
- Click on [Search receiver]. The test is successful when the radio foot switch is recognised as a serial COM-connection.

If the test is negative, check the device manager. The radio foot switch must appear in the listing "Connections“ as serial connection "FFS USB Receiver“.

- Click on [Receiver Test].
- Press the foot pedal areas [Left], [Middle] and [Right]. The test is successful when the appropriate symbols for the foot pedal areas appear red in the test software.



DBSWIN settings

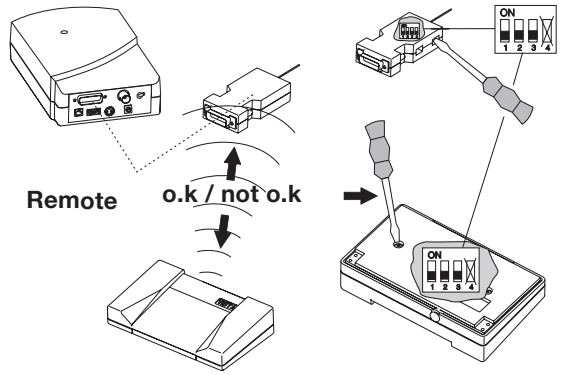
- Click on [Start], [Program Files], [DBSWIN] and [DBSWIN].
- In menu [Options] select the line [Display configuration].
- Click on [modules] on the left tool bar.
- Click the foot pedal symbol twice.
- Choose the interface COM X from the selection field [Port].

The exact interface connection address (e.g. COM3) is displayed in the function test (see above) and must be selected.

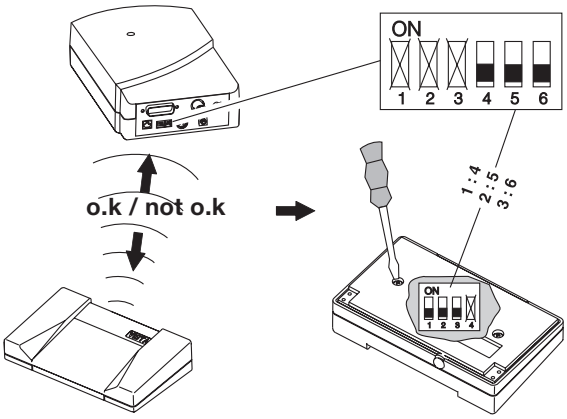
- Click [Test] in order to check the key functions.
- Confirm by clicking [apply] and then [OK].

Channel setting

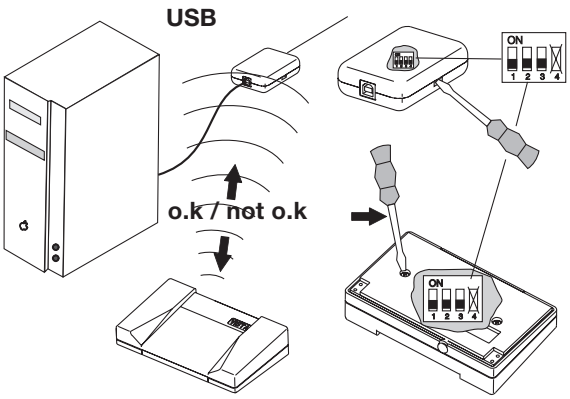
• Using an external receiver. Connection to game port



• Using receiver integrated into the basis station

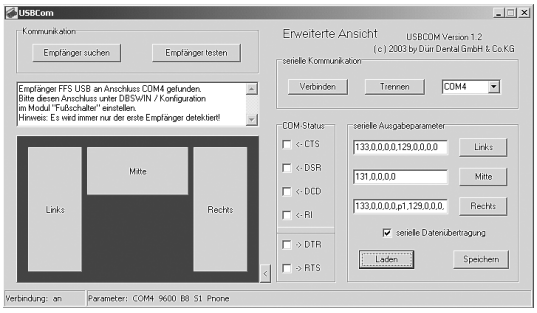


• Using a USB receiver. Connection to USB port on PC



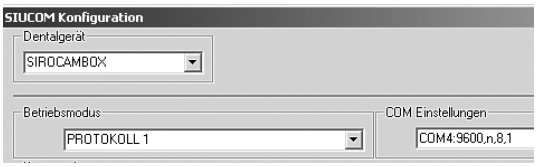
Use with image editor Sidexis

USB radio foot switch with a serial number subsequent to R000250 can be programmed for a Sirona Siucom port (from version 3.3) (from version 1.2 of software USBCOM).
The following functions are controlled in Sidexis :
Left key: Live / Freeze
Right key: Save
Central key: Camera off



Programming the foot pedal

- Start the software by double-clicking file "USBcom.exe“ in directory \TOOLS\Footswitch USBRadio on the DBSWIN CD-ROM.
- Click on [Search receiver]. The foot pedal will be recognised as serial COM-connection.
- Activate the expanded view using the symbol [>].
- Click [Load]
- Select the file Sidexis-1.ffs in directory \DRIVERS \Footswitch USBRadio\Serial_Protocols.
- Click the fields [Left], [Middle] and [Right] in that order. The radio foot switch confirms the programming of the keys by providing an audible signal.



Configuration of Siucom-port

- Open Siucom software (from Version 3.3) and update if necessary.
- Select [Protocol 1] in the option [Operating Mode].
- Enter the following in the entry field [COM settings]:
  COMX:9600,n,8,1
  The exact port address (e.g. COM4) is shown in the functional test (see above) and has to be selected.

Tips for Operators and Technicians
Trouble-shooting

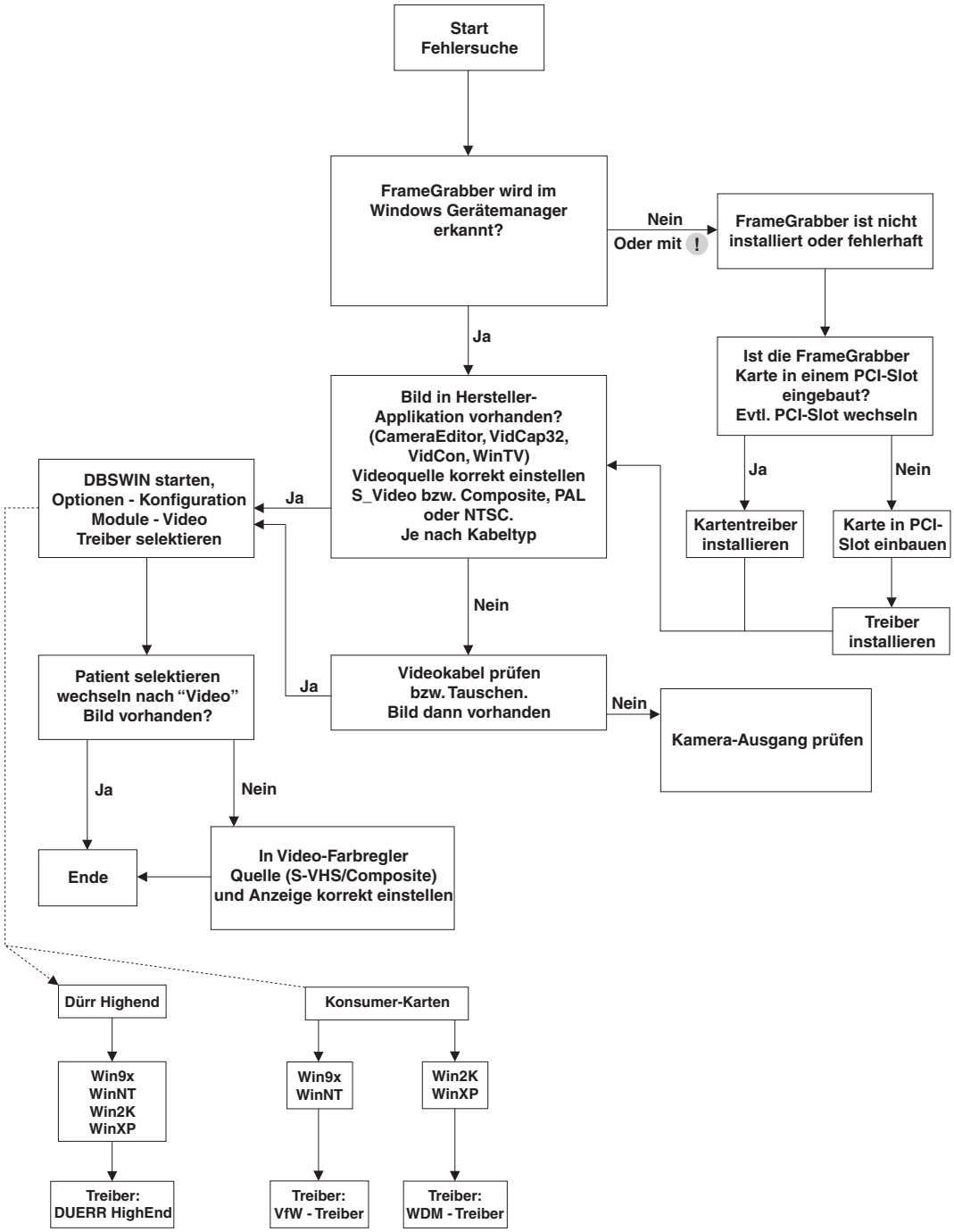
General

Problem	Possible cause	Solution
1. Image is opaque, milky	• The hygienic protective cover has not been correctly placed	• See section 11.2 Using the hygienic protective cover
	• IFC Optic is dirty	• See section 12.1 Cleaning the optical lens
	• Some sort of fluid has seeped into the optic on the handpiece.	• The handpiece must be sent for repair to Dürr Dental.
2. Image is too dark	• LEDs are defect.	• The handpiece must be sent for repair to Dürr Dental.
3. No image	• Mains cable or USB cable not connected.	• See section 9. Electrical connections 10. Start-up 11. Operation
	• Cable has not, or not correctly, been connected	• Connect cables correctly
	• Monitor not switched on or defect	• Switch on monitor.
	• Handpiece not switched on	• Press switch (1c) .
	• Discharge the battery pack	• Place battery pack in battery charger
	• Battery pack does not recharge. The life time of the rechargeable battery pack has been exceeded.	• Measure the voltage of the battery across the poles. 2.6 - 4.2 V = battery o.k. 1 -1.2 V = battery defect use new rechargeable battery pack verwenden (ca. 500 charge cycles)
4. Foot pedal does not function	• Battery flat	• Change battery
	• Wrong channel selection under DBSWIN "Video-Properties/Base station".	• Set correct channel.
	• Correct source in DBSWIN "Video-Properties/Base station" activated	• Activate source (tick box)

VistaCam (USB - solution)

Requirements:

- Standard PC (not a Notebook)
- Frame grabber must be compatible with the operating system being used.
- BIOS: Set plug and play OS = NO (manufacturer specific)
- Use the most current driver version for the frame grabber (download from manufacturers website)
- Check the monitor settings, or optimise if necessary (brightness / contrast / colour)
- Check the graphics board settings, minimum 16-BIT depth of colour, minimum 1024 x 768 pixel resolution
- Microsoft DirectX 9.0 or later, check or, if necessary, install.



Troubleshooting VistaCam (video solution)

Problem	Possible cause	Solution
1 . Image is opaque, milky	• The disposable protective cover is not correctly in place	• Correctly fit the disposable protective cover
	• IFC Optic is dirty	• Clean the IFC Optic
	• A disposable protective cover was used for extraoral exposures	• Remove the disposable protective cover
	• Some sort of fluid has seeped into the optic on the handpiece.	• The handpiece must be sent back to Dürr Dental for repair .
2 . Image is too dark	• LEDs are defective.	• The handpiece must be sent back to Dürr Dental for repair .
3 . No image	• Appliance is not switched on or the mains cable is not plugged in	• See Operating Instructions sections. 8. Electrical connections, 9. acceptance and 10. Operation
	• Cable has not, or not correctly, been connected	
	• Image viewing appliance not switched on or defective.	
	• Basis station not switched on	
	Only Vista Cam CL (radio)	
	• Discharge the battery pack	• Place the rechargeable battery pack in the battery charger.
	• The battery pack does not recharge. The life time of the rechargeable battery pack has been exceeded.	• Use a new rechargeable battery pack. (ca. 500 charge cycles)
	• Basis station not switched on	• See: acceptance
	• Handpiece not switched on	• See: acceptance
	• Incorrect channel selected.	• See: Setting channels
4. Blurred image (freeze frame) (Freezing with video printer or computer	As the camera delivers a standard video signal, certain standards regarding TV technology must be observed. TV images consist of two half frames. There is a 20 millisecond delay between the presentation of these two half frames. These two half frames are then brought together rather like a comb and form a single image on the monitor (frame). If there is any movement between the recording of the two images, an unclear or blurred image is produced.	• Try not to move during recording (practice!), if necessary use some form of support for the arm
		• Display only half-frame (see operating instructions for video printer or manual Frame Grabber Card for the Computer (entry: Frame /Field)

Troubleshooting for wireless footswitch USB

Problem	Possible cause	Solution
1. USB receiver of the radio foot switch is not recognised by the software "USB-Com“	• The radio foot switch has been incorrectly recognised as a serial Microsoft mouse (see device manager/mouse and other cursor appliances)	• Deactivate the serial Microsoft mouse in the device manager
		• Click on Connections/Receiver FFS USB/Properties/Port Settings/Advanced in the device manager and remove the tick/check from the field "Serial Enumerator“.
2. USB receiver suddenly loses contact to radio foot switch during operation	• Receiver placed immediately on or near PC	• It is possible for the PC power unit to produce radio interference
	• USB port voltage supply too low. (if too many appliances are connected to USB ports)	• Install an active hub between the USB port and the USB receiver.

Network configuration

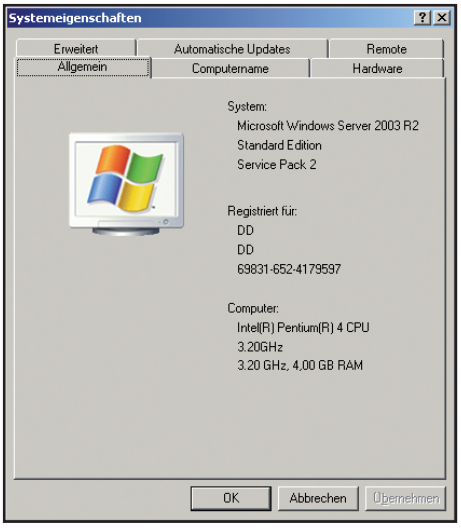


Content

Server configuration: Example Windows 2003 Server 3

Server configuration: Example Windows 2003 Server

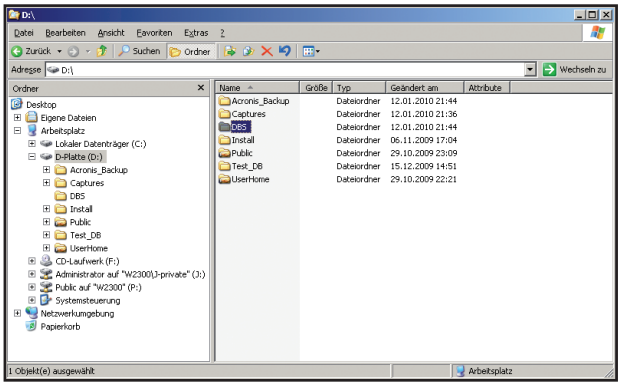
The following example shows the preparation and execution of a DBSWIN 5.01 Server- and Client installation on a Microsoft Windows 2003 Server including the required folder releases and access authorisations. When using Windows 2008 Servers, follow the steps shown for this server operating system accordingly. Please contact the responsible system administrator If necessary.



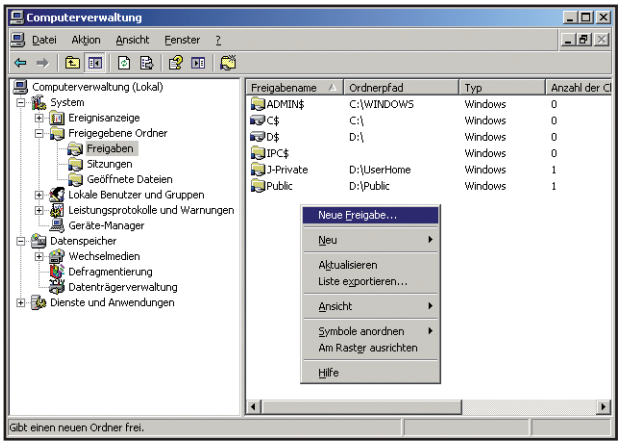
- All system features in regards to the supported server operating systems and minimum requirements are to be checked.

  Currently, Win2003 and Win2008, 32-Bit server operating systems are supported.
  (No 64-bit systems).

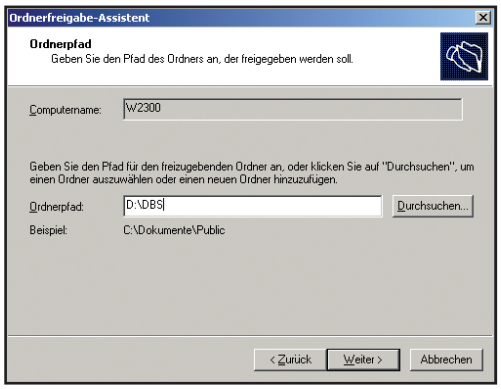
- Make sure that all servers and clients are in the required network and belong to the same work group, or have registered on the domain.



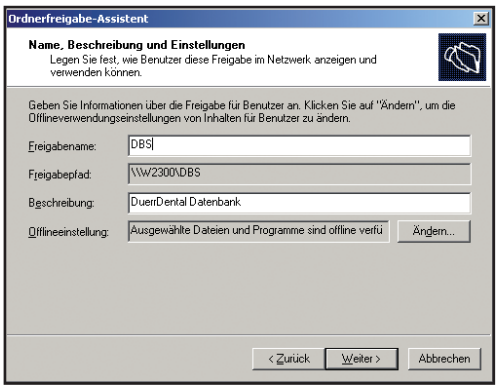
- Create a new folder "DBS" on the intended drive partition.

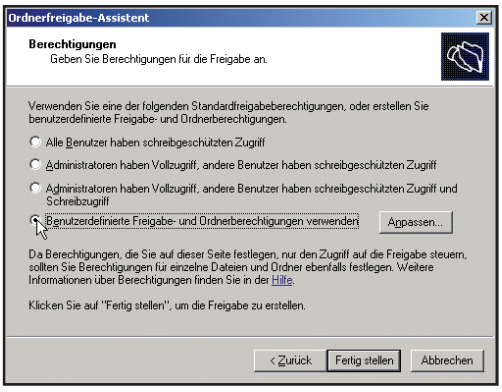


- Start a "New release" in the file server administration in section "Released folders".

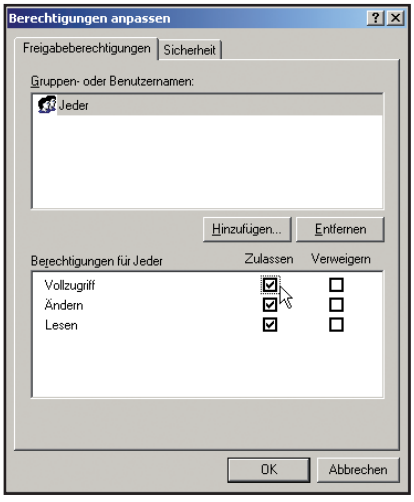


- Execute the steps in the folder release assistant and release the desired directory.

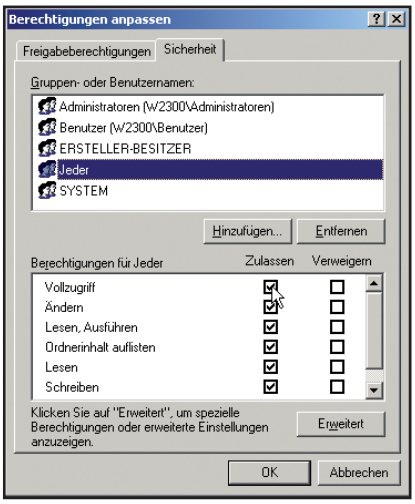




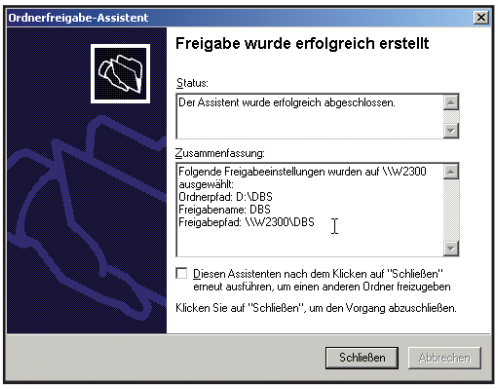
- Use the user-defined release-and folder-authorisations.



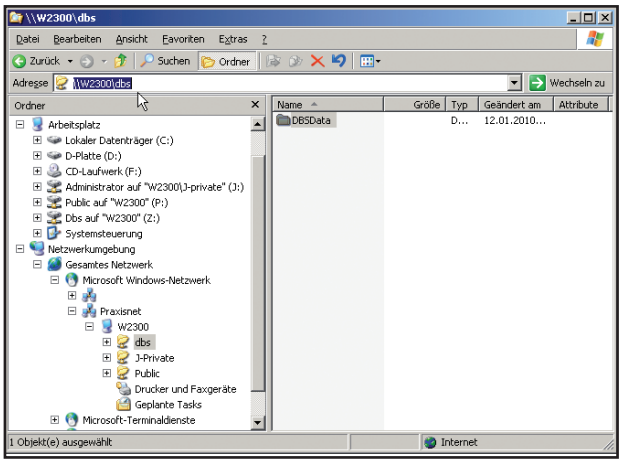
- Issue the required release authorisations (full access).



- Issue the required authorisations under "Security“ (full access).



- Complete the release assistant.



- Check for correct access capabilities via the UNC path input in the address line in the Windows Explorer.

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