

DBSWIN 5.16

EN
US



Installation and Operating Instructions

CE 0297

2100-725-91/29



 **DÜRR
DENTAL**

2019/10/10

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1. General

1.1 Symbols used

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Warning

The signal word differentiates between four levels of danger:

DANGER

Immediate danger of severe injury or death

WARNING

Possible danger of severe injury or death

CAUTION

Risk of minor injuries

NOTICE

Risk of extensive material/property damage

Note, e.g. specific instructions regarding the efficient use of the unit.



Comply with the Operating Instructions.



CE mark with notified body number



Manufacturer



Medical device



Take note of the accompanying electronic documents

1.2 Classification

Medical device of class IIb

FDA Classification (CFR Title 21) II

1.3 Intended purpose

The DBSWIN image processing system is for capturing and managing video and X-ray images and assigning them to patients in dental offices and hospitals. The image data can be stored under the name of the relevant patient and be displayed again whenever necessary. Video cameras (VistaCam), digital X-ray cameras (VistaRay), image plate scanners (VistaScan) and light beam scanners can be used as active image sources.

Existing image data can be imported and exported in established graphical formats. The production data (date, image type, original and patient data) is stored in the corresponding image or along with it. The image data can be optimally visualized to support diagnostics using processing functions. The software does not provide a measuring function because of the geometric image properties that cannot be avoided in X-ray images. Displayed values are only intended to serve as guide values. This also applies after the calibration function has been used.

Patient data can be transmitted from other patient management programs to DBSWIN using a defined interface.

In order to ensure image quality in dental X-ray departments, DBSWIN offers the option of using acceptance and consistency tests for monitors and X-ray imaging systems. The required measured values must be determined by the user using appropriate measuring devices and entered into the forms provided by DBSWIN.

In some countries, acceptance tests must be carried out and then verified and approved by experts before the product is used to create and analyze X-ray images for the first time. Similarly, image quality consistency tests should be carried out and documented by the operator at regular intervals during normal office operations. The test cycles for the consistency tests can be defined in DBSWIN in accordance with locally valid provisions.

DBSWIN may only be used by trained personnel (doctors, assistants, and service technicians).

Access to programs and program functions can only be configured by a service technician.

1.4 Indications for Use

DBSWIN and VistaEasy imaging software are intended for use by qualified dental professionals for windows based diagnostics. The software is a diagnostic aide for licensed radiologists, dentists and clinicians, who perform the actual diagnosis based on their training, qualification, and clinical experience. DBSWIN and VistaEasy are clinical software applications that receive images and data from various imaging sources (i.e., radiography devices and digital video capture devices) that are manufactured and distributed by Duerr Dental and Air Techniques. It is intended to acquire, display, edit (i.e., resize, adjust contrast, etc.) and distribute images using standard PC hardware. In addition, DBSWIN enables the acquisition of still images from 3rd party TWIN compliant imaging devices (e.g., generic image devices such as scanners) and the storage and printing of clinical exam data, while VistaEasy distributes the acquired images to 3rd party TWIN compliant PACS systems for storage and printing. DBSWIN and VistaEasy software are not intended for mammography use.

1.5 Intended use

The software is intended for the viewing and diagnosis of image data in relation to dental issues. Its proper use is documented in the operating instructions of the corresponding image-generating systems. Image-generating systems that can used with the software include optical video cameras, digital X-ray cameras, image plate scanners, extraoral X-ray units and optical light beam scanners.

The software must only be used by trained, qualified dental personnel (e.g. dentists, specialist consultants or other qualified personnel) for the following tasks:

- › Filter optimisation of the display of X-ray images for improved diagnosis
- › Acquisition, storage, management, display, analysis and editing of digital/digitised optical video recordings
- › Acquisition, storage, management, display, analysis, diagnosis and editing of digital/digitised X-ray images
- › Forwarding of images and additional data to external software (third-party software)

1.6 Improper use

The software must not be used for the following:

- › Performance of measurements on images that are not suitable for this purpose due to the way in which the images were created. The software does not provide a measuring function due to the unavoidable geometric image properties of X-ray images. Here, displayed values are only intended to serve as guide values. This also applies after use of the calibration function.
- › Use for contraindicated purposes for the image-generating system. The operating instructions of the image-generating system must be followed here.
- › Mammographic applications.

Any other usage or usage beyond this scope is deemed to be improper. The manufacturer accepts no liability for damages resulting from improper usage. In these cases the user/operator will bear the sole risk.

1.7 Side effects

At present, no side effects that might permanently impede the function of other programs are known.

1.8 Safety

Dürr Dental has developed the software in such a way that dangers are effectively ruled out if the software is used in accordance with its intended use.

Despite this, the following residual risks can remain:

- Personal injury due to incorrect use/misuse
- Personal injury due to malfunction

1.9 Notification requirement of serious incidents

The user / patient is required to report to the manufacturer and the competent authority of the Member State, in which the user and/or patient is established, any serious incident that has occurred in relation to the device.

1.10 Specialist personnel

Persons using the software must be able to guarantee safe and correct operation based on their training and experience.

- › Make sure every operator is trained in the use of the software.
- › All installation, resetting, alteration, extension and repair work must be carried out either by Dürr Dental personnel or by a suitably qualified person approved by Dürr Dental.

1.11 Registration

As the registered user of the DBSWIN program, you are entitled to use the full program function and a wide range of technical support services. You have to activate the registration in the DBSWIN program, check the desired configuration, print out the registration form or register the entries in the registration form in the Appendix if you do not have access to a printer. Please send in the completed registration form to Dürr Dental either by fax or by post.

DÜRR DENTAL SE
Höfigheimer Str. 17
74321 Bietigheim-Bissingen
Germany

Dürr Dental will send you a valid activation code for your system.

The software is not copy-proof. However, only one copy may be produced for backup purposes. Any duplication or publication of the software or the software documentation is prohibited without the prior approval of Dürr Dental.

1.12 Storage of the data storage device

According to the manufacturer's instructions, protect from

- › Direct magnetic radiation (permanent magnet or electromagnet)
- › Temperature outside the permitted range
- › Humidity outside the permitted range
- › Damage (scratches, breakage, deformation, etc.)

1.13 Data backup before installation

We recommend you carry out a complete backup of the software already installed on the computer before installation of the software. When using the X-ray module (e. g. with VistaRay, VistaScan), a regular backup of the DBSWIN database directory is essential! Instructions on how to proceed can be found in the "More Information" chapter ("Data Backup" section).

1.14 Protection from threats from the Internet

The software runs on a computer that can be connected to the Internet. Therefore, the system needs to be protected from threats from the Internet.

- Use antivirus software and update it regularly.
- Look for evidence of possible virus infection and, if applicable, check with the antivirus software and remove the virus.
- Update the computers operating system regularly.
- Perform regular data backups.
- Provide access to computers to authorised operators only, e.g. by means of user name and password.
- Make sure that only trustworthy content is downloaded. Only install software and firmware updates that have been authenticated by the manufacturer.

1.15 Effect on the computer

We do not assume liability for any effect on any software already installed on the computer.

1.16 Copyright and property rights information

All circuits, processes, names, software programs and units quoted are protected under industrial property rights.

The reprinting of these installation and operating instructions or parts thereof is prohibited without the express written permission of Dürr Dental.

1.17 End User Licensing Agreement (EULA)

For the current End User Licensing Agreement (EULA), please refer to the DBSWIN installation process.

1.18 Operation

General

The operation of the program follows the Windows conventions. Special procedures are pointed out on the corresponding page of the operating manual.

Mouse

Click:	Click left mouse key once and release it
Double click:	Click left mouse key twice
Click right hand mouse:	Click right mouse key once and release it
Drag&Drop (drag left):	Position mouse cursor on the object, click the left mouse key and hold it while moving the mouse. Release the mouse key when the desired position is reached.
Take&Drag&Drop:	Click on object, move object by means of the mouse and release the object by clicking again.

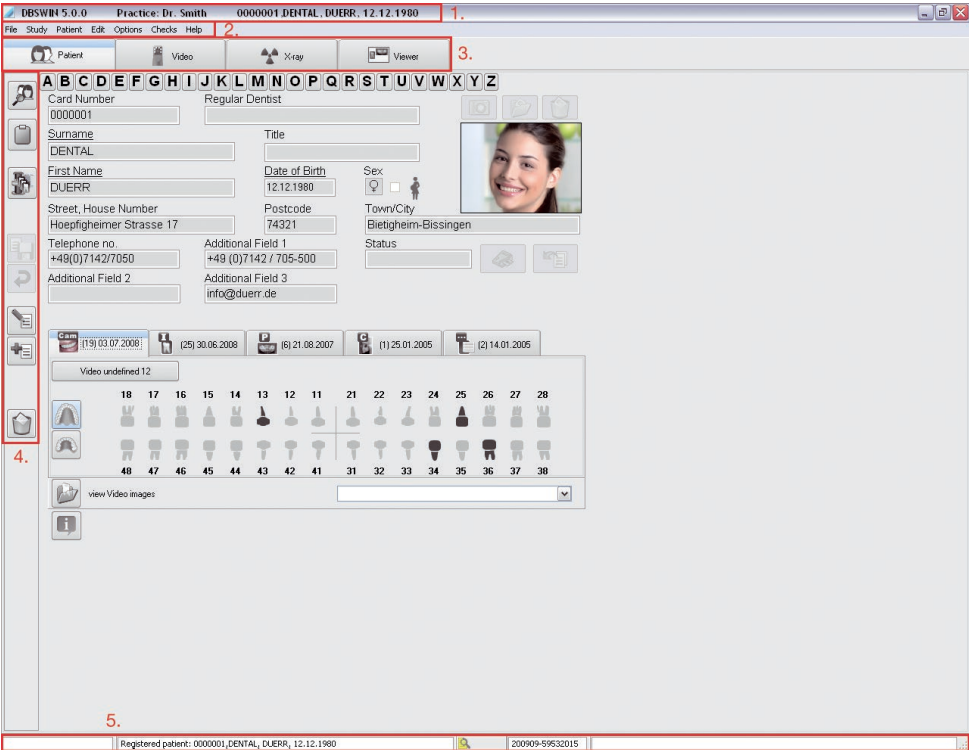
The following description relates to Windows standard setting (right-hand mouse)

Click:	Activate or initiate a button. Select a menu item or a function
Double click on the object:	Activate object or image-related functions (e. g. image processing).
Click right hand mouse:	Load the context menu.
Drag&Drop:	Move or copy objects between Drag&Drop-capable objects or applications.
Take&Drag&Drop:	Draw graphic objects with start and end points. Brightness/contrast settings

Keyboard

The keyboard can be used to select from menus of DBSWIN or to make entries.

1.19 DBSWIN main menu information



1. Header bar, 2. Menus, 3. Modules, 4. Function bar, 5. Status bar
The office name and the currently selected patient are displayed in the menu toolbar.
The logged-in user and the last registered patient are shown in the status bar.

Error log

While the program is running, any errors that occur are automatically logged by the Logserver, which is activated each time the program starts and which automatically saves them in a file at the end of the session. These files (LOGx.rtf) are located in the DBSWIN\BIN directory and can be referred to in the case of any program problems.

The Logserver  can be found in the Windows task bar at bottom right while DBSWIN is running.



The Logserver can be viewed by double clicking to show any error messages. By right clicking on the Logserver symbol in the task bar you can exit the Logserver by selecting "Quit".

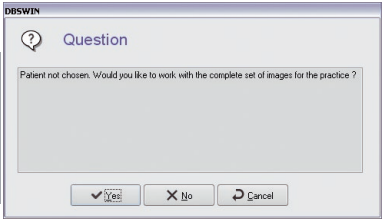


NOTICE

Please do not exit the Logserver while DBSWIN is running!

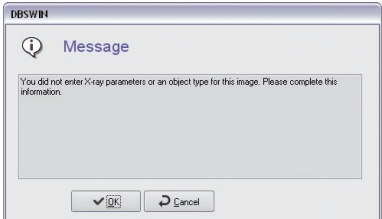
Dialog window

Question



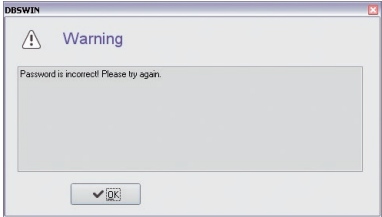
A question window appears as a safety feature that allows you to confirm, deny or cancel an action.

Message



Messages give information relevant to an instruction that has been carried out.

Warning



A warning appears when an instruction could not be carried out or could only partly be carried out.

General menus/Functions

Quit (File menu)

Returns to the login status to change user information or to end the program.

Examination

This menu lets you open examinations, swap between examinations, and create new examinations for a patient. This option must be activated in the configuration/modules on the "User Interface" tab so that the menu appears in the main window.

This function is mostly used in conjunction with DICOM (see "DBSWIN DICOM Manual", No. 9000-618-96/30). If necessary, you must order and release DICOM via the central release.

Configuration (Options menu)

The display of the configuration information can be activated or deactivated.

X-ray register (Options menu)

The X-ray checks can be viewed and printed.

Monitor test (Checks menu)

The monitor test sequences can be started via this menu item (currently valid for Germany only!).

Contents (Help menu)

Opens this manual in the online version at the 1st page.

Help (F1) (Help menu)

Displays help on the current module.

About DBSWIN (Help menu)

Registration of the program and display of the registered modules and versions.

1.20 System requirements

Hardware and software

The PC and its components (monitor, printer, etc.) must be set up according to IEC 60601-1(EN60601-1) if they are operated within the vicinity of the patients (up to 1.5 m away from the patient examination area).

- The safety requirements of the PC system may differ depending on the combination with other peripheral equipment (video camera, scanner, intraoral X-ray imaging system). Further information can be found in the user manuals or may be derived from the regulations valid for the country where the system is installed (e.g. MPG for Europe).

PC



The following information merely states the requirements for the computer system. The function of Dürr Dental hardware and software might still be impaired as a result of peculiarities of the customer's hardware and software landscape even if these system requirements are met. In these cases, Dürr Dental assumes no liability for ensuring the trouble-free operation of the Dürr Dental hardware/software.

If additional systems are connected up to the PC, these system requirements may change. Take the system requirements of all connected systems into account.

CPU:	≥ Intel Pentium IV compatible, 1.4 GHz
RAM:	≥ 1 GB (2 GB recommended)
Operating system:	Microsoft Windows 7 (Home Premium or higher), SP1 plus update KB3033929, recommended: KB2921916 Microsoft Windows 8.1 (not Windows RT) Microsoft Windows 10 (from Pro) Microsoft Windows Server 2016 Microsoft Windows Server 2019
Hard disk:	Workstation (without database) ≥50 GB The memory requirements of the database depend on the number of images taken at the office. (Camera image: Approx. 1 MB, X-ray image: Approx. 2 MB - 10 MB)
Drive:	DVD-ROM
Data backup:	Daily data backup
Interface:	Ethernet ≥100 Mbit/s
Graphics board:	Resolution ≥ 1024 X 768 Depth of color 32-bit, 16.7 million colors
Diagnostic monitor:	In accordance with DIN 6868-157, room category 5 or 6 (depending on the requirements)

File system

NTFS is strongly recommended as the file system for the storage medium of the DBSDATA DBSWIN database! An existing FAT32 file system can be converted to NTFS with the Convert.exe Windows program.

DirectX Version 8.x or higher



NOTICE

In conjunction with the Dürr Dental VistaCam intraoral camera system and the VistaRay and VistaScan X-ray imaging systems, different PC specifications may be necessary. Detailed information can be found on the DBSWIN DVD or on the Internet at www.duerr.de.

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Extension for the connection of Dürr Dental's VistaCam intraoral video system

Foot pedal

Dürr Dental triple serial connection (recommended)

Dürr Dental triple gameport (fully assigned).

Dürr Dental triple radio gameport (fully assigned) or USB port.

Extension for the Dürr Dental's VistaRay and VistaScan X-ray system



NOTICE

The Dürr Dental VistaRay X-ray image system handles essential data. Loss of this data may require new X-rays to be taken. The program was designed to avoid data loss if at all possible. To ensure this stability, the following minimum system requirements are required for the operation of Dürr Dental X-ray imaging systems: Long-term archiving system with long-term stable storage media (MOD, WORM, CDR, DVD-RAM) Recommended: MOD with fast PCI-SCSI-2 controller

Monitor

17" image tubes with 0.26 mm pitch spacing

Horizontal frequency to 92 kHz, vertical frequency to 160 Hz

TCO 95, MPR II, TÜV-GS, CE mark and X-ray Ordinance



NOTICE

Depending on the graphic card monitor combination used and its settings (e. g. resolution, depth of color, contrast, brightness) the quality of the monitor display can be very different. In particular, the grayscale display and the level of detail can be different. If the monitor image is used for diagnostic purposes, it is necessary to check that the quality is sufficient during the constancy checks.

PC printer

In principle, all printers that can be activated under WINDOWS



NOTICE

Depending on the printer model used, printer settings (e. g. high-speed printing mode with reduced quality) and paper grade, the quality of the printouts can be very different. It is recommended to use the quality paper recommended by the manufacturer. If printouts are to be used for diagnostic purposes, it will be necessary to check the quality by printing out the images made for the constancy checks. A printout in DIN-A4 full format is not recommended due to quality concerns!

2. Data backup

2.1 Data backup with the Server Manager (see also section 12. - "Server Manager")

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CAUTION

A backup of the data is absolutely necessary since the failure of the system can lead to a loss of data. It protects you against loss of data due to incorrect operation or destruction (fire, water ...) of the system.



CAUTION Data loss

All the data generated after the backup is no longer available after the backup has been restored.

- Before restoring the backup, ensure that the new data has been backed up separately.
- Import the new data of the backup restoration separately.

Directories to be backed up



The directory structure refers to installations with Windows 7. The directory structure can deviate for older Windows versions.

For a DBSWIN standard installation, the image and patient data are located in the \DBSData directory. In the Configuration menu, it is possible to see where the data of an office is stored on the "Office" page. For more details, please read the section on "Configuration".

Directories that must be saved are:

\DBSData	Complete database (incl. office databases, global data configuration, archive databases with X-ray and video, test database)
\Programmer (x86)\Duerr	Program files
\Programdata\Duerr	Configuration and temporary files

For an installation that deviates from the standard installation, the following directories must also be backed up:

\XrayImg	X-ray archive database (only for individual installation)
\VidImg	Video archive database (only for individual installation)

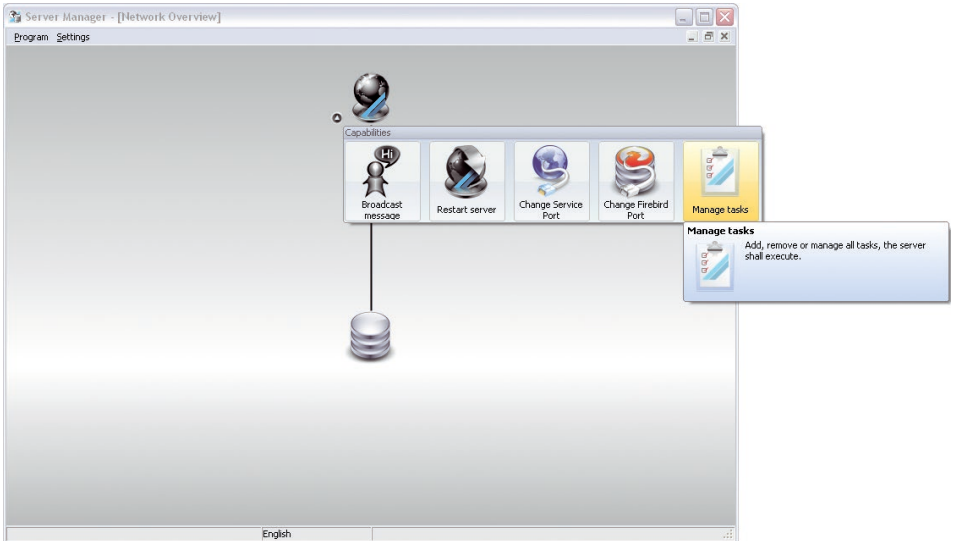
Preparations on the Server Manager



CAUTION

No image data is stored via the backup on the Server Manager. This must be backed up with a complete data backup.

The database must be saved with the Server Manager (only installed on the computer with the SQL database under Start/All Programs/Duerr Dental/DBSWIN/Server Manager). To do this, a new task must be created using "Manage Tasks" which starts a daily backup of the SQL database (see also 12. Server Manager). This backup should be started at least 30 minutes before the complete data backup (depending on the size of the SQL database). The starting time should be selected so the interval between the backup via the Server Manager and the complete data backup is not too large in order for all changes of the day to be backed up. The backups are written to the "...\\DBSData\\Backup" directory. 20 backups are stored as standard. Thus, the 21st backup deletes the 1st backup.



Complete data backup

After the SQL database has been backed up via the Server Manager, the complete \\DBSData directory must be backed up using an external backup tool. In the event of deviations from the standard installation, it may be necessary to back up additional directories (see "Directories to be backed up") under certain circumstances. The complete data backup can be carried out along with the daily office data backup.

3. Configuration

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CAUTION

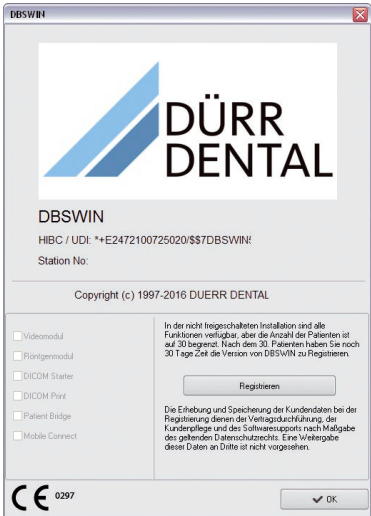
Risk of data loss due to incorrect configuration
Configuration must only be carried out either by Dürr Dental personnel or by a suitably qualified person approved by Dürr Dental.

3.1 Central activation of the software

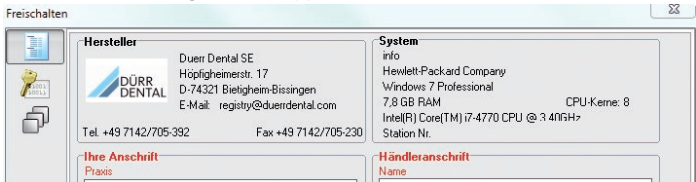
DBSWIN must be activated in order to use all of its functions fully.
Without activation, 30 patients can be created with the full range of functions of the software. From the 30th patient onwards, a 30-day grace period starts during which the software can be activated. During this period, more patients can be created but not after it expires.
To carry out activation, proceed as follows.

Transmission of the registration data

Note that additional costs can accrue during the registration. The prices are given in the current price list of Dürr Dental or you can request them from the dental trade.
Start the DBSWIN software.
The "DBSWIN" registration window appears.



The registration window can also be opened later in the "Help" menu with the menu item "About DBSWIN". Click on the "Register" button.
The "Activate" dialog window appears.




The buttons in the left area can be used to reach the further dialog window in order to enter the data.



Form

This button is used to swap to the dialog window where the necessary ordering data can be entered. Click on the "Form" button.

Freischalten

Hersteller  Dürr Dental SE Hopfigheimerstr. 17 D-74321 Bietigheim-Bissingen E-Mail: registry@duerredental.com Tel. +49 7142/705-332 Fax +49 7142/705-230		System info Hewlett-Packard Company Windows 7 Professional 7.8 GB RAM CPU-Kerne: 8 Intel(R) Core(TM) i7-4770 CPU @ 3.40GHz Station Nr.:										
Ihre Anschrift Praxis Anrede: _____ Titel: _____ Vorname: _____ Nachname: _____ Straße: _____ PLZ: _____ Ort: _____ Land: _____ Tel.: _____ Fax: _____ E-Mail: _____		Händleranschrift Name: _____ Straße: _____ PLZ: _____ Ort: _____ Land: _____ Tel.: _____ Fax: _____										
Seriennummern (bitte vorhandene einfügen) <table border="1"> <thead> <tr> <th>Gerät 1:</th> <th>Gerät 2:</th> <th>Gerät 3:</th> </tr> </thead> <tbody> <tr> <td>REF: _____</td> <td>REF: _____</td> <td>REF: _____</td> </tr> <tr> <td>SN: _____</td> <td>SN: _____</td> <td>SN: _____</td> </tr> </tbody> </table>				Gerät 1:	Gerät 2:	Gerät 3:	REF: _____	REF: _____	REF: _____	SN: _____	SN: _____	SN: _____
Gerät 1:	Gerät 2:	Gerät 3:										
REF: _____	REF: _____	REF: _____										
SN: _____	SN: _____	SN: _____										
DBSWIN 5.15.0 Build 15172 Registriert Bestellen (Bitte ankreuzen) Videomodul Nein <input type="checkbox"/> Röntgenmodul Nein <input type="checkbox"/> Patient Bridge Nein <input type="checkbox"/> Mobile Connect Nein <input type="checkbox"/>		Registriert Bestellen (Bitte ankreuzen) DICOM Starter Nein <input type="checkbox"/> DICOM Print Nein <input type="checkbox"/>										
<input type="checkbox"/> Ich bin damit einverstanden, dass die von mir im oben stehenden Kontaktformular angegebenen Daten zu Zwecken der Auftragsbearbeitung und Kundenbetreuung erhoben, verarbeitet, gespeichert und genutzt werden. Weiterhin bin ich damit einverstanden, dass die Dürr Dental SE, die von mir im oben stehenden Kontaktformular angegebenen Daten an Konzerngesellschaften (bzw. mit Dürr Dental verbundene Unternehmen) übermittelt. Weitere Informationen zum Thema Datenschutz finden Sie hier												
Bitte Formular ausfüllen und an Dürr Dental senden.												

OK Abbrechen

Complete the registration by telephone, fax, e-mail or electronic means.

For registration by telephone, please have the information on the order form and the "workstation no." ready. Enter the workstation number in the "System" field.

For registration by fax, complete and print the order form and send it to the fax number given.

For registration by email, export the order form as an XML file and append it to the email.

For electronic registration, you need to have a functional internet connection. Access data may be needed for an internet connection via a proxy server.



Print order form



Export order form



Send the order form by electronic means

Enter the release code centrally



Code

This button swaps the user to the dialog window where the "DBS Code" that you obtain from Dürr Dental is entered.

When the code has been received from Dürr Dental:

Start the DBSWIN software and open the registration window.

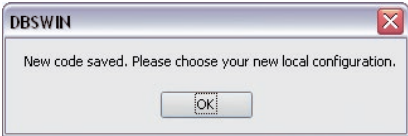
Click on the "Code" button.

Enter the "DBS Code".

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

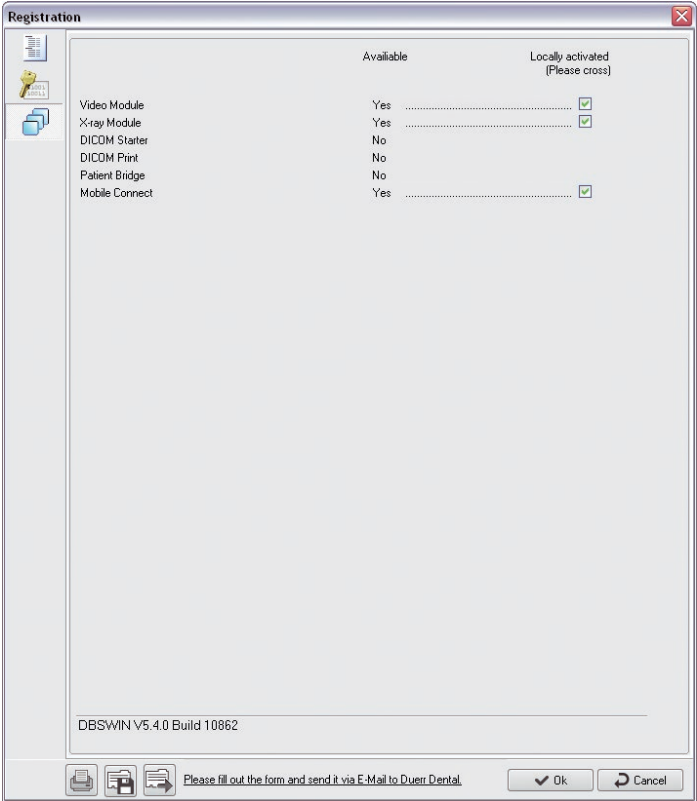
Confirm the entry with "OK".

A message appears.



Confirm with "OK".

The dialog window for activation of the locally available modules appears.



If the dialog window does not automatically appear:



Local modules

This button swaps the user to the dialog window where the modules for a workstation are activated. Click on the "Local Modules" button.

Make the local settings on any workstation. The modules, which have already been activated, can be seen in the "Available" column.

Activate the check box of the modules to be activated in the "Locally activated" column on the local workstation.

Confirm the entries with "OK".

Confirm the message with "OK" and restart the software.

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General

When starting the DBSWIN software, the Configuration folder is deactivated. The Configuration folder is shown by clicking on the "Options/ Configuration" menu. The basic DBSWIN properties can be loaded and set in the Configuration folder.



CAUTION

Risk of data loss due to incorrect configuration

Configuration must only be carried out either by Dürr Dental personnel or by a suitably qualified person approved by Dürr Dental.



Save changes



Cancel changes

3.2 Configuration of the modules



Configuration/Operator

EN
US

DBSWIN 5.0.0

Practice: Dr. Smith

Patient: *

File Study Configuration Edit Options Checks Help

Config

Patient

Video

X-ray

Viewer

Login needed

Status: Logged in as user: Standard

User: Standard Password: remove

Full name: Standard user

Initials: Std Practice: Dr. Smith

Job function: Dentist

Access rights

☒ Administrator

☐ Patient: Additional

☐ Video

☐ X-Ray

Access allowed to practices...

Dr. Smith

Access denied to practices...

Standard user

Registered patient: 0000001,CENTAL, DUERR, 12.12.1980

General

The Operator page is used to list, administer and select the users of DBSWIN. The program allows a number of users to be registered who will be checked during login. Changes to user data can also be carried out here. Each user can have specific or all of the access rights of a specific office area.

Login required

The program can be started and the basic functions and features of DBSWIN can be changed without password if the "Login required" check box is deactivated. With the help of the "Login required" check box, the use of the device by authorized persons can be generally controlled. When starting the DBSWIN program or changing the functions and features of DBSWIN, a prompt appears requesting a password.

Meaning of the displayed dialog fields

Status:	Name of currently logged-in user
Operator:	List of already available users of the current office
Password:	Password of the user
Full name:	Full name of the user
Initials:	Initials of the user
Main office:	List of main offices of the user
Function:	Function of the user within the selected office
Access rights:	List of users and their access rights

The login window



The main office for the selected user will be displayed. In the event that the user is registered at more than one office, the desired office can now be selected from the list.



NOTICE Entering passwords

If the name and password of a user are identical, the password does not need to be entered at login (e. g. User = Müller, Password = Müller). If the check box is empty, DBSWIN can be started without user and password prompt. Access rights and users cannot be managed with this option.



Change user

There are two methods of changing the active DBSWIN user.

In the program

The active user is displayed in the status bar at bottom left. Click "Name" to select another user of the current office.

Starting and ending with Login window

End the program up to the login window. Choose the required user name from the list displayed and enter the correct password. The main office for the selected user will be displayed. In the event that the user is registered for more than one office, the desired office can now be selected from the list. Confirm the selection by clicking the "Login" button. The user is now logged in. The current user name is now displayed at the bottom left of the screen.



NOTICE

If a user is not assigned to the selected office, this is automatically switched to the main office assigned to the user.



Edit user

To edit users and access rights in DBSWIN, appropriate administrator rights are required. The edit mode is activated by clicking the "Edit User Data" button. Makes changes to the entries in the text fields for full name, initials, office, and function.



Save user

On completion, changes are saved by clicking the "Save" button. To discard the changes, click the "Discard Input" button.



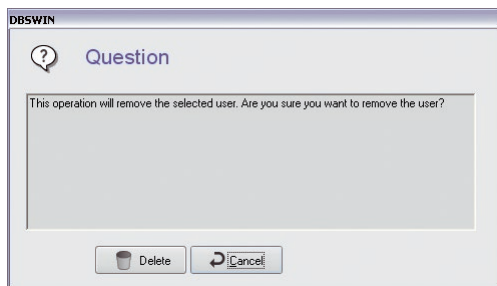
Create new user

To edit users and access rights in DBSWIN, appropriate administrator rights are required. Clicking the "Edit Operator Data" button activates the edit mode and clears all fields. Assign entries to the text fields for full name, initials, office, and function. If a user in the appropriate list is allocated the "Doctor" function from the list belonging to the field, then this name will also appear as "Main Doctor" in the "Patient Record".



Delete user

To delete users and access rights in DBSWIN, appropriate administrator rights are required. Choose the appropriate user name from the list. Click on the "Delete Operator" button to start the deletion process.

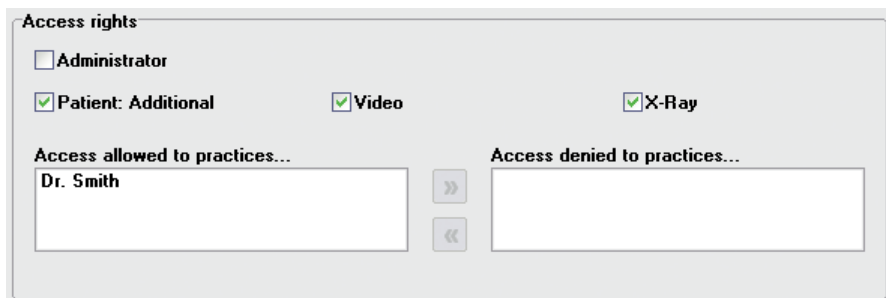


The user is permanently deleted if you click on the "Delete" button.

Description of access rights

DBSWIN allows different access rights to be conferred on each individual user. Care should be taken to allow only a small number of suitable users to have administrator rights.


Administrator:	Creating or editing user data Creating or editing office data Configuration
Patient supplement:	Display additional information on the current patient by clicking the "Info" button
Video:	Access rights to video module
X-ray:	Access rights to X-ray module




By marking the individual function areas of DBSWIN, you have the ability to assign each user individual access rights. If the "Administrator" check box is activated, this user will have access to all functions. If a user should have access to several offices, click on the office name in the right options list.

Clicking on the button  assigns the office to the user.

To remove an entry:

Click on an office name in the options list on the left and then click on the button . Save the changes by clicking the "Save" button.

To discard the changes: Click on the button .



Configuration/Office

DBSWIN 5.0.0 Practice: Dr. Smith 0000001.DENTAL, DUERR, 12.12.1980

File Configuration Edit Options Checks Help

Config Patient Video X-ray Viewer

State:

Status: Practice Dr. Smith

Practice name: Dr. Smith

Database (Data may be moved with DBTool)

Path: C:\Dbsdata\P12\Database\

Practice name: Dr. Jones
(Database is being used by this practice)

Video

Path: C:\Dbsdata\P12\Video\

Image quality factor: 100

X-Ray

Path: C:\Dbsdata\P12\Xray\

Save mode: Lossless compression

Storage time: 10 Years

☒ X-Ray parameter entry is compulsory

☐ Editing X-Ray parameters is always allowed

Standard user Registered patient: 0000001.DENTAL, DUERR, 12.12.1980 VistaRay

The Office menu in Configuration allows the possibility of entering and amending other offices. (e.g. for group offices) or databases. The relevant database paths for the different offices are set up here.

Directory structure in DBSWIN (standard installation)



A database directory ..\Dbsdata is created for each office. (first office = ..\Pr1\..; second office = ..\Pr2\.. etc.) In each office directory, the corresponding database is located in the ..\Database subdirectory. The office directory also stores the video images in the ..\Viding subdirectory and the X-ray images in the ..\Xrayimg subdirectory. Each office is assigned an office ID when the office name is set up.



Creating a new office

In order to create a new office, click the "Create New Office" button. All data fields will be cleared and a name can be entered for the new office or database. The paths required by the program will be automatically suggested. However, it is possible to enter your own program paths. Repeat these steps for video and X-ray.



Save

Save any change by clicking the button "Save New or Edited/Changed User Data". To discard the changes, click the "Discard Entry" button.



Editing an Office

In order to edit the current office data, click the "Edit Office Data" button. You are now able to change the name of the office and to reassign the paths. This will be necessary when the physical position of the files has changed (directories have been moved, rearranged). Save changes by clicking the "Save" button. To discard the changes, click the "Discard Entry" button.



Delete Current Office

Users with administrator rights are able to delete individual office data. Select the office to be deleted and click the "Delete Current Office" button. The appropriate entry will be deleted.



NOTICE

Only the path instruction will be deleted and not the paths themselves. This must be carried out manually, in this case via Explorer.



Changing an Office

In order to change to another office, click the "Pull-down Field" next to the current office. An options list of all the offices entered under DBSWIN appears. If available, select an entry from the list and confirm with left click. To switch to the selected office, click the "Change Office" button. The current office is now displayed at the top of the screen.



X-rays

The retention time field enables you to enter how long the X-rays are to be kept in the database. X-rays that fall within this retention time cannot be deleted. You can select whether the entry of X-ray parameters is necessary for an X-ray exposure or not with the "X-ray Parameters Are Mandatory Entries" check box. If you want to change these parameters later, the "X-ray Parameters Always Changeable" check box must be set.

There are three methods of storage for X-ray images (the file size and image quality values are not fixed; they are dependent on a number of factors):

- No compression (100 % file size)
- Loss-free compression (50–60 % file size)
- Lossy with compression (100 = 40–50 % file size; 90 = 20–30 % file size)

X-Ray

Path: C:\Dbsdata\Pr3\Xrayimg\

Save mode: Lossless compression

Storage time: 10 Years

☒ X-Ray parameter entry is compulsory

☐ Editing X-Ray parameters is always allowed

X-Ray

Path: C:\Dbsdata\Pr3\Xrayimg\

Save mode: Lossy compression

Image quality factor: 100

Storage time: 10 Years

☒ X-Ray parameter entry is compulsory

☐ Editing X-Ray parameters is always allowed



NOTICE

These settings must be selected according to the applicable legislation!

In general, the image loading time will increase the lower the compression ratio. In lossy compression, an image quality factor of 100 means that the image information can theoretically be restored to 100%. If no statutory regulations are stipulated, a lossy compression with an image quality factor of 80–90 is recommended.



NOTICE

Loss-free storage is required in Germany.



Video

A value between 0 and 100 can be set in the "Image Quality" field. An image quality value of 100 means that video recordings are saved with high quality and low compression. A lower value raises the compression and lowers the storage necessary, but lowers the quality of the image. Recommended quality factor = 70

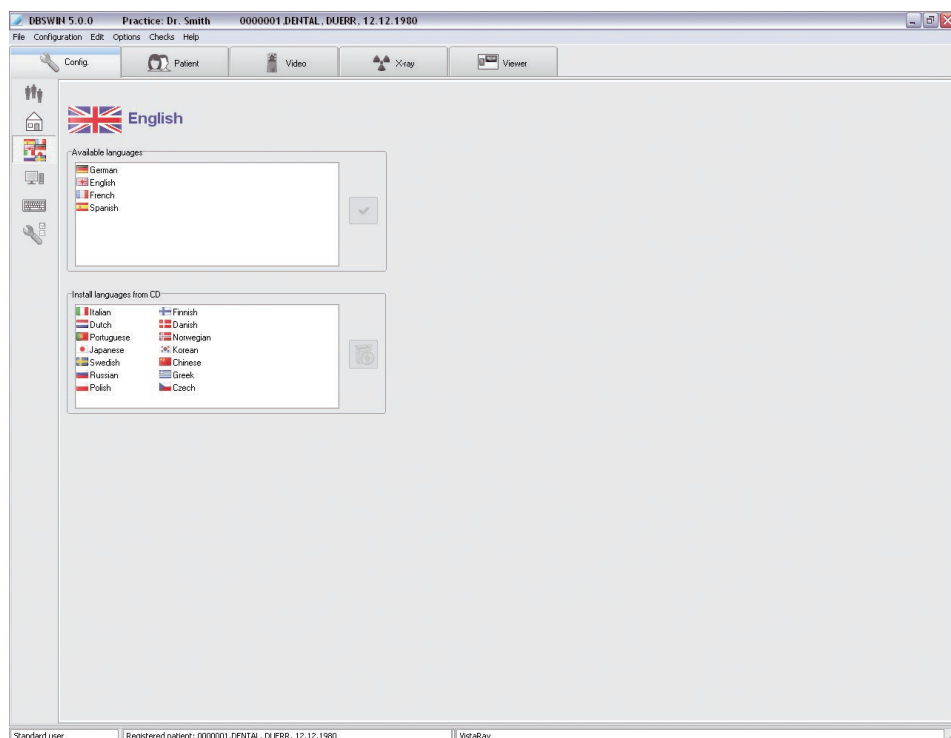


Database

The path to the database currently being used is displayed here and the office ID that is connected with this database.



Configuration/Language



DBSWIN supports a variety of languages. The four languages German, English, French and Spanish are installed during the initial installation. To switch to the required language, left click (left-hand mouse button) on the appropriate language in the upper options list. Confirm your selection by clicking the "Change Language" button (on the right-hand side next to the options list of "Available Languages"). The changeover to the new language takes effect the next time the program is started. You can use the left mouse key in the lower options list to select national languages that are not yet installed and reinstall them from DBSWIN-DVD (right next to the options list "Reinstall Languages from DVD") by clicking the "Reinstall Selected Languages from DVD" button.



System Info

DBSWIN 5.0.0 Practice: Dr. Smith 0000001.DENTAL, DUERR, 12.12.1980

File Configuration Edit Options Checks Help

Config Patient Video X-ray Viewer

Computer name: Station:

Database: Warning limit: MB Error limit: MB

Memory: Used memory: 579.29 MB Available physical memory: 1.41 GB Total physical memory: 1.97 GB Used virtual memory: 167.27 MB Available virtual memory: 1.84 GB Total virtual memory: 2.00 GB

Disk: c: [winup] Used: 28.21 GB Available: 21.79 GB Total: 50.00 GB 40%

Video: Path: C:\DBSD\data\pr1\Video\ Files: 19 (7.30 MB) Room for approx.: 53.395 Video images Warning limit: MB Error limit: MB

X-Ray: Path: C:\DBSD\data\pr1\Xray\ Files: 35 (126.60 MB) Room for approx.: 222 X-Ray images Warning limit: MB Error limit: MB

Standard user Registered patient: 0000001.DENTAL, DUERR, 12.12.1980 VistaRay

Information, such as memory storage and system capacity, is displayed here. The following fields can be edited by the Administrator. Click the "Edit systeminfo" button. The name of the computer can be edited. Each station computer should be assigned an individual and unique name for identification purposes when working in a network.

Warning/Error limits

Warning or error limits can be set in the "Database" field or in the "Image Files" field. If the storage capacity available on the data storage device falls below a preset value, the system will issue a warning message. If the error limit is reached, no more new data or images can be recorded.

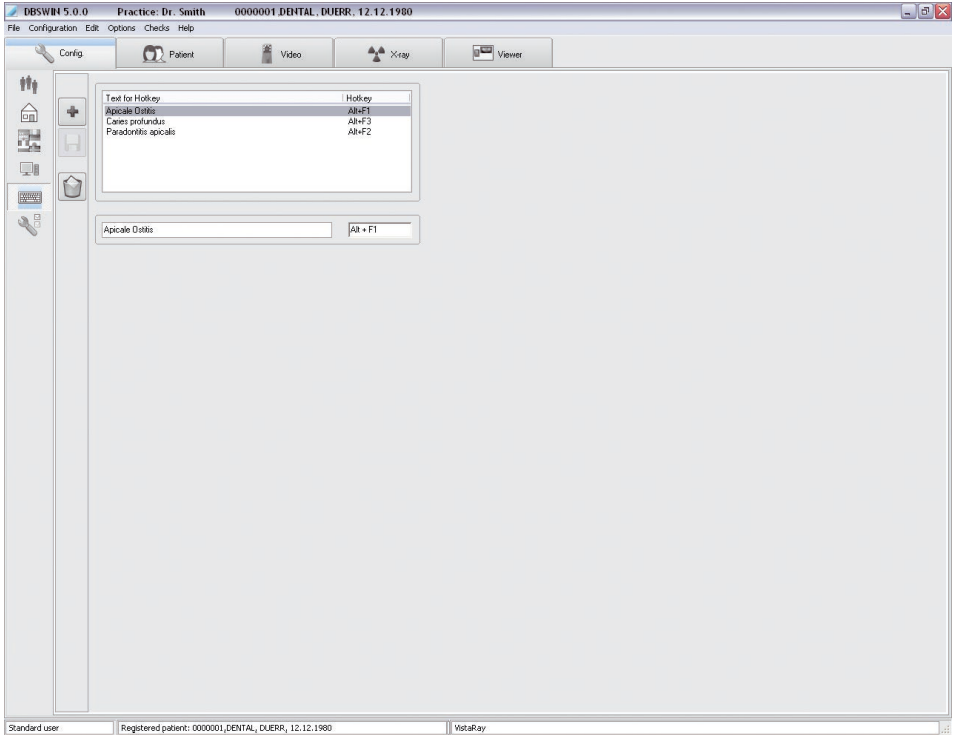


NOTICE

Set the warning limit to a value that gives you sufficient time to react, for example, to transfer data or obtain a new data storage device.



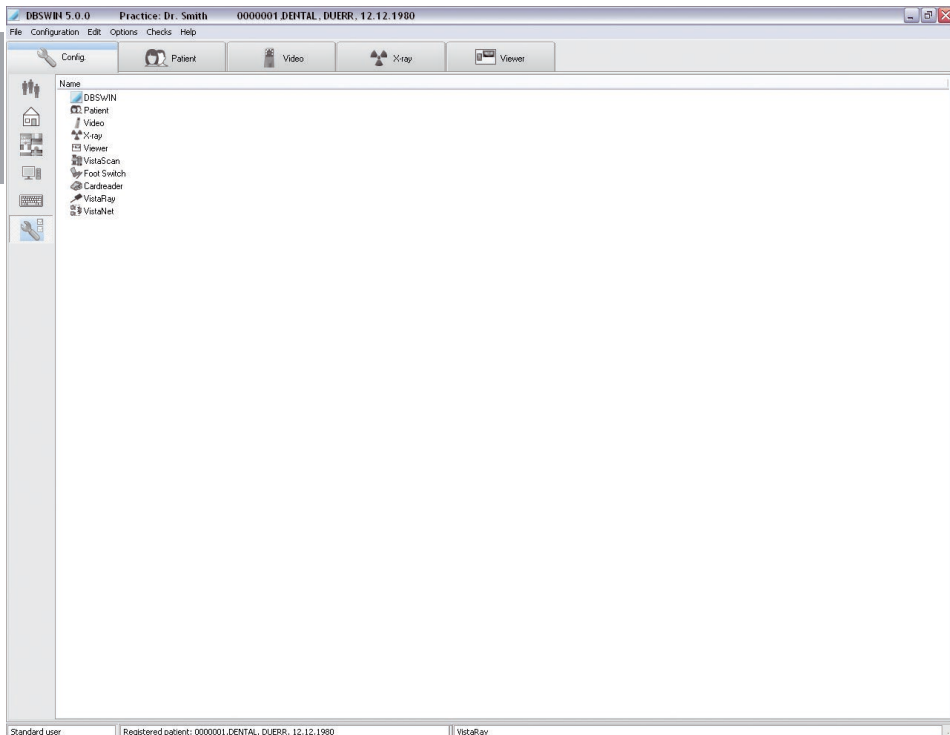
Shortcut keys



Shortcut keys allow faster access to both Comment and Diagnosis in the image information box. The assignment of shortcut keys can be changed here. You may edit existing terms in the editing field below the selection box or add new terms by clicking the "New Shortcut Key" button (empty index card). The right field displays the key combinations entered. Save your entries by clicking the "Save Shortcut Key" button (diskette). To delete an entry, select it from the list and click the "Delete Shortcut Key" button (recycle bin).



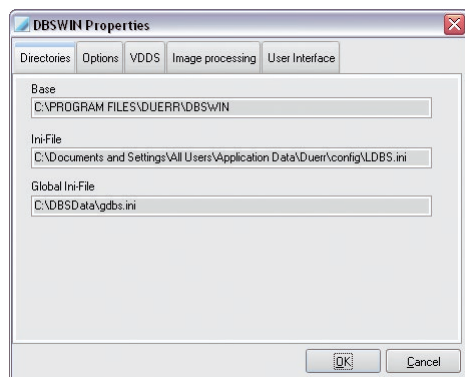
Configuration/Modules



The Modules menu page is for setting of the individual program modules.

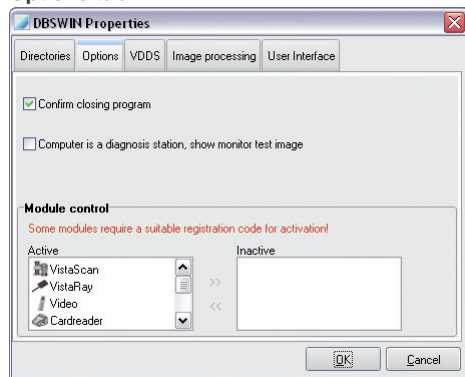
3.3 DBSWIN module (main module)

Directories tab



Displays the program directories and storage location of the initialization file LDBS.INI.

Options tab



If the "Confirm Program Close" check box has been activated, you will be asked to confirm a prompt when you try to close DBSWIN.

If the "Computer is a Diagnostic Station" check box is activated, the monitor tests required according to the configuration are carried out when DBSWIN is started.



NOTICE

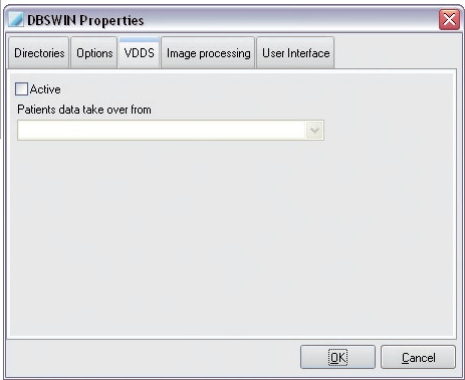
The check box must be activated if diagnostics are run on the monitor of the computer, see Chapter 7 X-rays "Legal Regulations".

"Module Control" allows you to activate or deactivate modules. Select the desired module and click the "Activate Module" button (double-arrow to the right) or "Deactivate Module" (double arrow to the left). DBSWIN must be restarted for any changes!

VDDS tab



For configuration, you need to have administrator rights in Windows. In addition, DBSWIN needs to be started by right-clicking and by using the "Run as administrator" function.



Supported VDDS media levels:

- VDDS media level 1
- VDDS media level 2
- VDDS media level 3
- VDDS media level 4
- VDDS media level 6
- SupportNew

The VDDS media interface for communication with certain practice management programs can be configured using the "Active" check box. To do so, the VDDS media-capable patient management program must also be selected in the list box. For this purpose, the file, "VDDS_mmi.ini" under "C:\Windows" needs to be adapted. The adaptations depend on the software that is used.

Optionally, the support of image data and the VDDS media level 6 (call-up of the import interface of the selected practice management program) can be changed. The "Display Messages" option enables errors that have occurred during the operation of the VDDS media interface to also be displayed.

Automatically according to VDDS-PRXNR:

To do this, DBSWIN must offer an identical image of the offices of the selected practice management program. The important thing here is the identical numbering of the offices with the VDDS-PRXNR that is always PRXNR=1 for the first office. The VDDS-PRXNR can be viewed and adjusted in the DBSWIN practice management when VDDS is activated.

Manual office selection:

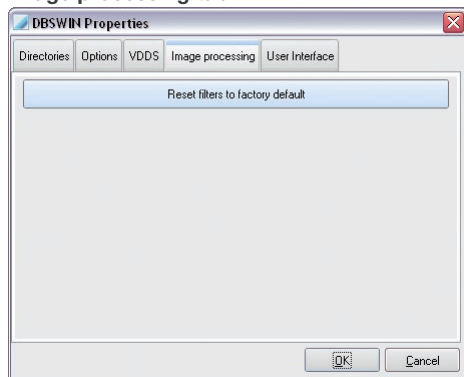
If a VDDS order is received that does not belong to the current office, the office that must be switched to is displayed so that the order can be received. If there is no office with the VDDS number, the order cannot be accepted. In that case, the office must be created in DBSWIN, and the VDDS order must be sent again in the third party program.

Ignore VDDS-PRXNR and continue work in the active office:

The patient is searched for or created in the active office.

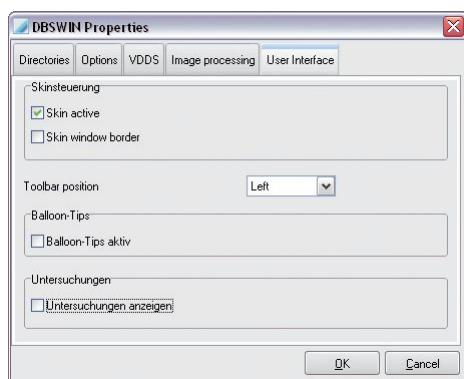
Currently it is possible to support patient transfer and the return of performance (type of image, object, opt. X-ray parameters, thumbnail) and image data of an image.

Image processing tab



The Filter settings are set to the factory settings. Current settings can be replaced.

User interface tab



Here you can activate the skin control of the software user interface, the position of the function bar and the display of the tool tips.

Activate "Skin Active" so that the appearance of the software user interface is adapted to your usual Windows skin (recommended).

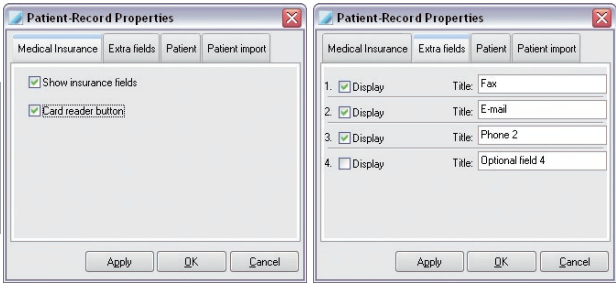
Select left or right in the "Position of the Function Bar" list. The position bar is displayed at the selected position the next time the software is started.

Activate "Balloon Tips Active" to display tool tips on the function for individual software elements (recommended).

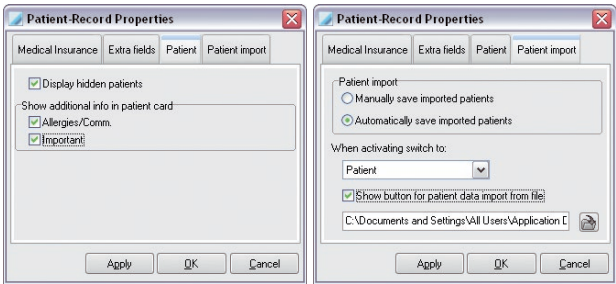
Activate "Display Examinations" to view the list of examinations that are available for a patient via the "Examination" menu and to swap between examinations. The "Examinations" function is mostly used in conjunction with DICOM (see "DBSWIN DICOM Manual", No. 9000-618-96/30). If necessary, you must order and release DICOM via the central activation center.

Under "Numbering system for individual teeth" you can select which numbering system is used for numbering. FDI is commonly used in many European countries. By contrast, UNS is normally used in e.g. the USA.

3.4 Patient modules (Patient Index)



The "Medical insurance" tab (image on left) can be used to activate or deactivate the display of the insurance fields (STATUS) and the Card Reader button. The Extra page enables the selection of which, or how many, extra fields in the patient record card should be displayed and to edit their labeling.



On the Patient page you can choose that all patients who have been set to be hidden should be visible again in the patient select list. If you want to display the first text line of the "Additional Patient Information Note" in the lower area of the patient index, set the desired check box in the area "Show Additional Information Directly on the index Card".

The "Patient Import" tab allows you to define an automatic program change to a selected module when a patient is activated. If, for example, you want to go straight to the X-ray module when a patient is registered by an external program, select "X-ray" and activate the "Automatically Save Imported Patients" check box. A registration selection list is generated if several patients are imported from an external program and the "Automatically Save Imported Patients" check box is not activated. The list is then displayed in the patient record when the patient is imported (via the button "Read the Patient Data from the Import File"). This function allows a local waiting list to be produced, even on a PC at a remote location (Patient Registration PC). To do so, the corresponding transfer file for the desired computer station must be created. You have to specify the location of the import file in DBSWIN when carrying out a patient import process. The directory and file name can be entered directly in the field or a file can be assigned by clicking the "File Selection" button (directory tree) in the browser dialog. Restart DBSWIN after changing the directory or file name. For more information, see the "data exchange.pdf" file in the DBSWIN directory.

If the "Manually Activate Transferred Patient" check box is set, the button "Read the Patient Data from Import File" must be clicked to read in the patient data from the list.

3.5 Video module

In the Video properties assign the corresponding camera or control type to the software. If you use several video sources, you can specify the camera and control type for each source.

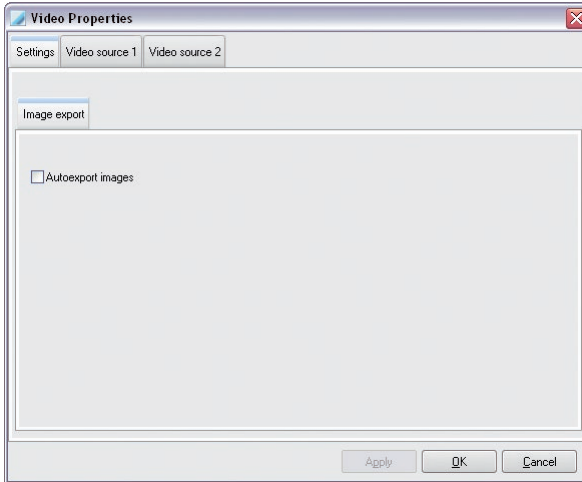


NOTICE

If a PCI bus master frame grabber is used, ensure that the hardware supports this.

EN
US

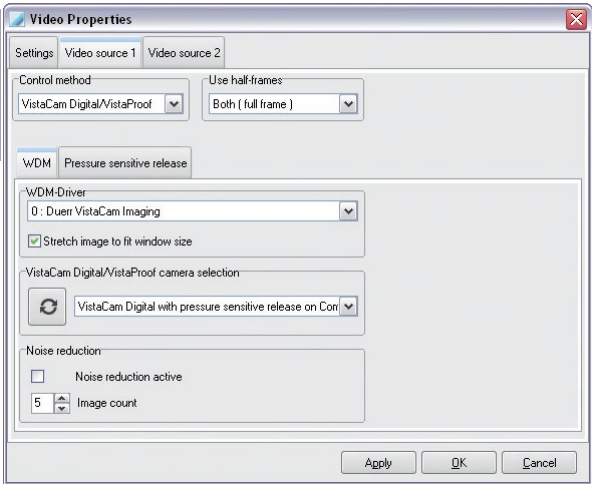
Settings tab



If the "Export Images Automatically" function is activated, each video image saved in the database is also copied to any defined path. The selection of the path, the file format and other properties is carried out in the "Light Table Properties" dialog on the "Export/Email/Export Options" tab in "Autoexport" mode.

Video source 1 and Video source 2 tab

If a camera is connected to the computer as the only camera, the settings must be made under the "Video Source 1" tab. If a second camera is connected, the settings must be made under "Video Source 2" because the "Video Source 1" is occupied by the first camera.



Select the desired camera in the "Control Type" area. If necessary, follow the installation and configuration manual of the connected unit.

Select "Both (Full Screen)" in the "Half Images Used" area. If the "Full Screen" setting is used, you should check the recordings because performance and movement-induced horizontal streaks can occur on your images.

WDM tab

"WDM Drivers": All WDM drivers installed in the system are displayed. The driver for the VistaCam Digital is automatically selected.

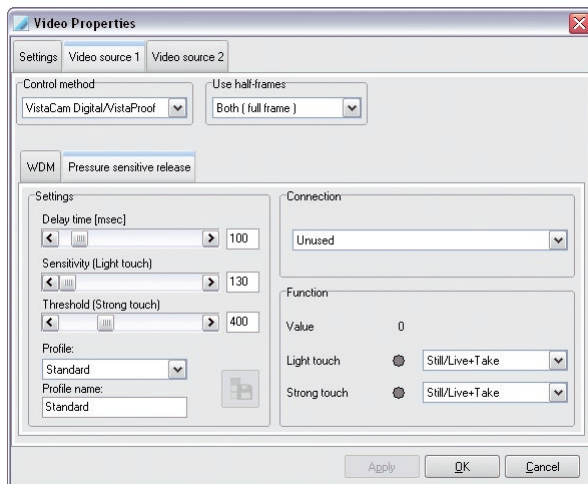
"VistaCam Digital/VistaProof Camera Selection": All connected digital VistaCams are displayed.

Update camera list

The list of connected cameras is updated by clicking on the button.

"Noise Reduction": When an image is recorded, the selected number of images in a certain time period is recorded. A new image is calculated from these images where interferences are compensated to the greatest possible extent.

Capture ring tab



The capture ring is set ex-works as the standard.

If the standard settings are not the same as the presets, there are even more setting options that can be selected (only VistaCam Digital):

Light, medium, heavy

The profile (except for the standard profile) can also be adapted.



Save changes in the current profile...

The changes are saved and transmitted to the selected camera with a click of the button.

The following settings can be made in a profile:

"Delay Time": The time interval between pressing the capture ring and the recording of the still image in milliseconds. The delay time prevents blurring of the image that is caused by the movement when triggered.

"Sensitivity": The minimum force that needs to be applied so that the capture ring reacts.

"Threshold Value": The force from which the capture ring should swap from light to heavy pressure. The range between the sensitivity and the threshold value is treated as light pressure. The pressure above which the threshold value is treated as heavy pressure.

You can check the settings made by pressing the capture ring on the right side of the camera below the function.

"Function": The pressure exerted on the capture ring of the camera is indicated by a numerical value here. The functions of the pressures can be set and verified by means of the pilot lamp.

Confirm settings with "Apply" and "OK".

3.6 X-ray module

X-ray station

X-ray Properties

X-ray Units Consistency/acceptance checks Settings

Name (Location and Type):
Station 1

Category:
Other

Operator:
Dr. Smith

Address:
Station 1, Location

X-ray Emitter

Manufacturer:
Duerr Dental

Type:
X45

Control unit or timer (Type / Serial No.):
Unit 0001

Beam or Tubus (Type / Serial No.):
Serial 12345

Tube (Type / Serial No.):
Serial 12345

Tubus length / film - focal length (mm):

Filter (mmAl):
25

Magnification:
1,000

☒ Display warning when no valid check exists for recording system
☒ Include primary input device in check (e.g. sensor)
☐ Include secondary input device in check (e.g. electronics)

Default parameters

OK Cancel

- "Designation": X-ray station designation, list (mandatory)
- "Manufacturer": Manufacturer of the X-ray unit
- "Type": Name, type, and serial number of X-ray unit
- "Category": X-ray unit category (mandatory)
- "Magnification": Magnification factor ($\geq 1,000$)
- "Operator": This information is automatically copied to the check forms.
- All mandatory data must be present!

The parameters of different X-ray sources can be set on the "X-ray Stations" page. By clicking on the button "Edit Name or Default Parameters" you can set the name and the parameters of the X-ray system currently selected. Click on the button "Create New X-ray Station" to create a new X-ray station. The contents of the "Manufacturer", "Type", "Operator" and "Address" fields are automatically adopted in the forms of the checks. The magnification factor (the object will be displayed larger than life) serves to define the projection of the object planes via the image reception plane and is used for the calculation of the image resolution of the image displayed on the monitor. The values can either be found in the documentation supplied by the manufacturer or must be calculated.



WARNING

- Incorrect measurement result due to projection distortion or incorrect calibration
- Perform calibration with a reference object.
 - Keep the projection distortion as low as possible during the X-ray image.
 - Do not use a panoramic image for the measurement.

The parameter input is the same for both the procedures described above!

Click on the "Default Parameters" button to start entering the parameters. However, the category must be set to "Intraoral" or "Extraoral" beforehand.

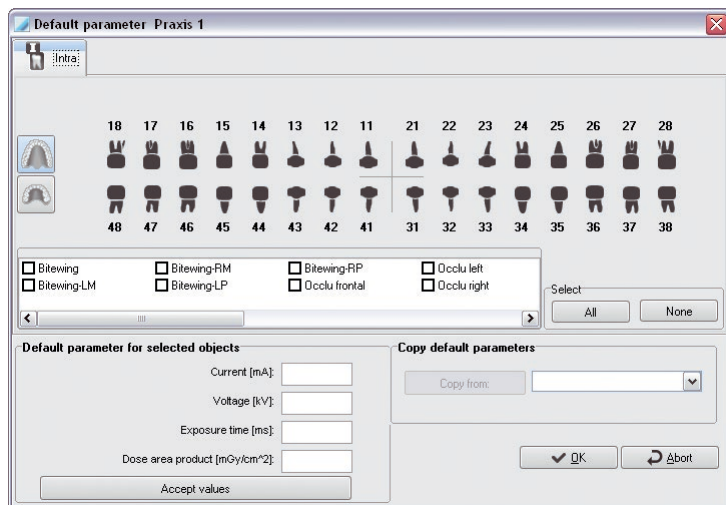
In addition, you can specify whether warnings appear if checks are invalid and which entry devices should be included in the checks.

Default parameters

After clicking on the "Default Parameters" button, a dialog window that depends on the selected category appears where you can specify the parameters.

When creating a recording of the corresponding category, the software then automatically suggests the values specified here.

Example: "Intraoral" default parameters



An object (tooth) has to be activated or deactivated by left clicking the object itself. You can select all objects with the "All" button. The "None" button deselects all objects.

If you have selected an object type or object type group, enter the default values for current, voltage, exposure time, and dose area product in the section "Default Values of the Selected Objects" and then click on the "Apply Value(s)" button so the values are saved.

If you have installed several X-ray systems, you have the option to apply the default values of other X-ray systems.

Click on the button in the "Copy Default Values" section with the left mouse key. Select an entry from the list and confirm by clicking on the "Copy from" button.

The dialogs for the other recording formats (Extraoral, OPG and Other) have the same structure as the dialog for Ceph. Proceed in the same way when specifying the parameters for these formats.

Acceptance and constancy tests

EN
US

X-ray Properties

X-ray Units

Consistency/acceptance checks

Settings

☒ Computer is a diagnosis station, show monitor test image

☒ Display warning when no valid check exists for recording system

☒ Display warning when dose equivalent differs

Warning mode

☒ Include primary input device in check (e.g. sensor)

☐ Include secondary input device in check (e.g. electronics)

Validity period of checks

Intra

Acceptance check [months]:

0

Consistency check [days]:

30

Extra

0

30

Unlimited validity

☒

☐

☐ Use the following interval for consistency check only at this station [days]:

0

Set defaults

Exportoptionen

OK

Cancel

For Germany and some other countries, regular constancy tests are required for X-ray equipment in combination with digital x-ray sensor systems. If DBSWIN is to monitor these check intervals, please mark the "Show Warning (...)" check box if no valid check is available. Then DBSWIN will inform you when the check period has passed, i.e. a new test is due. The validity period can be set separately for intraoral and extraoral systems. These values are used for all X-ray systems that are connected to DBSWIN. If the "Applies Unlimited" check box is active, this type of check is then no longer monitored after at least one available check! For special countries (e. g. Switzerland: Constancy check on one station = 3 months, constancy check on all stations = 1 year) the term of validity for the constancy check can be set separately on the current station. You can incorporate the primary (e. g. sensor) and secondary input device (e. g. control unit (up to VistaRay 6) or VistaScan into the check). The default values are the current recommendations in the Federal Republic of Germany. For more detailed information, see "Legal regulations".

You can define how the images of the check should be output using the "Export Options" button.

40

Configuration

Monitor test

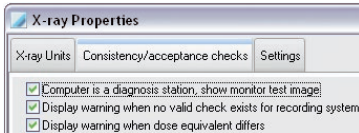
In accordance with the X-ray Ordinance in Germany, a monitor test with a suitable test image (e. g. SMPTE image) must be carried out at least on a daily basis on at least one dental computer station suitable for diagnosis. Starting DBSWIN displays this image together with an information text window for checking.

This option can be switched off either directly in this information text window or in the X-ray properties dialog on the Constancy/Acceptance Test page by resetting the check box "Computer is a Diagnostic Station, Display Monitor Test Image".



NOTICE

Pay attention to the legal regulations: Depending on the country, the monitor test is a statutory prerequisite in diagnostic stations!



For more detailed information, see Screen test with DBSWIN.

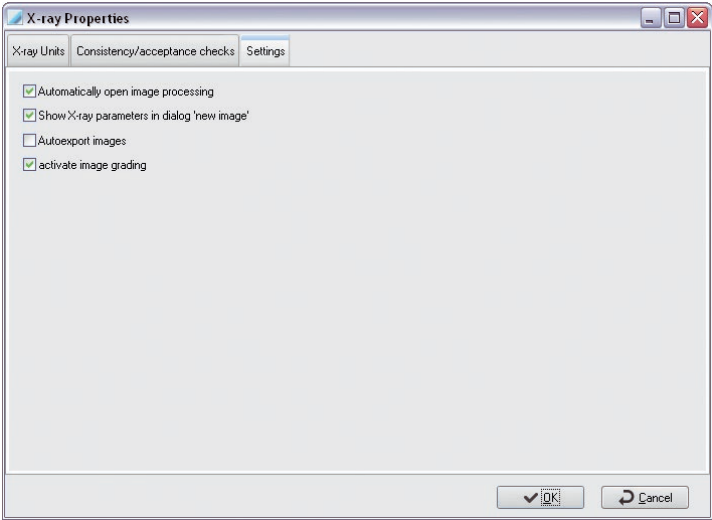
Acceptance test

In order that an acceptance test can be carried out, the appropriate X-ray station must be registered. The optimal X-ray parameters for that X-ray device should be entered on first time use. For more detailed information, see X-ray, Acceptance test with DBSWIN

Constancy Check

In order to carry out a constancy test, an acceptance test must already be stored for that X-ray station! For more detailed information, see X-ray Constancy Check with DBSWIN.

Settings

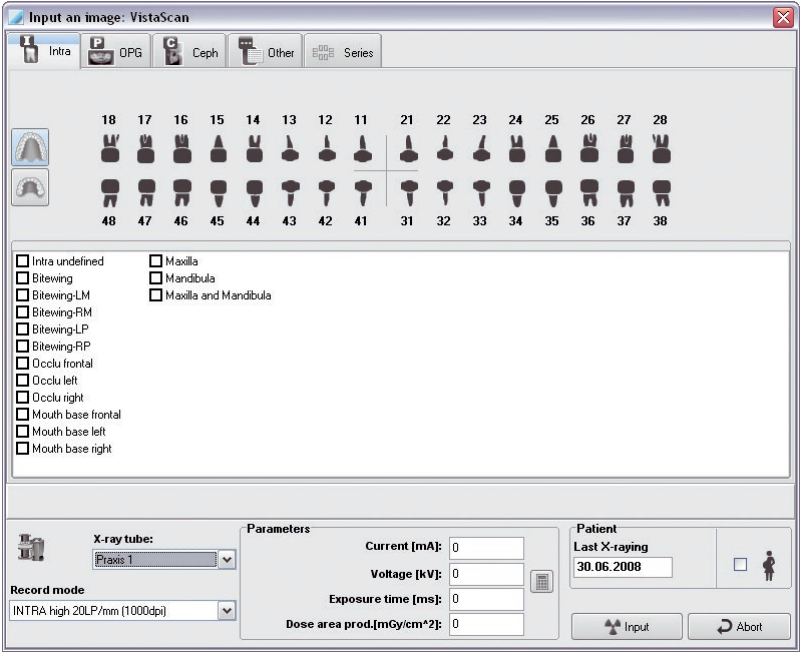


"Automatically Open Image Processing" check box

If this check box has been selected, then the Image Edit box will be opened automatically after completion of an X-ray exposure with the appropriate X-ray image standard function.

"Show X-ray Parameters in Dialog 'New Image'" check box

If this check box is selected, the X-ray parameters are displayed in the X-ray module and can be changed there.

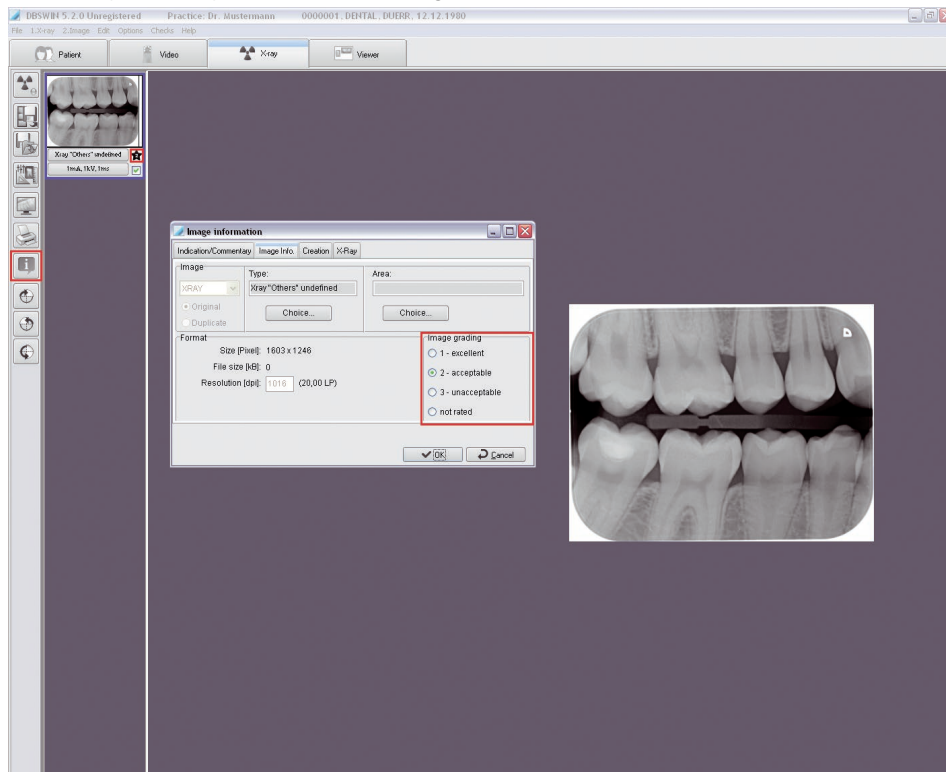


"Automatically Export Images" check box

If this check box has been selected, any saved images will automatically be exported additionally to the X-ray module. The export format for X-ray images and the export path can be defined via the mode Autoexport, which can be configured in Light table menu under /Export-Email/Export options.

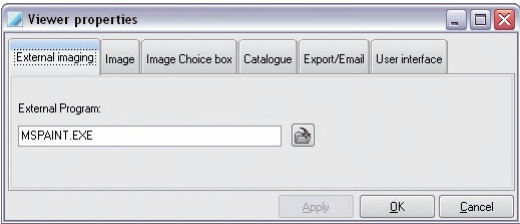
"Active Image Grading" check box

If this check box is selected, newly read and existing X-ray images can be analyzed. This can be done immediately when they are read in or on the light table.

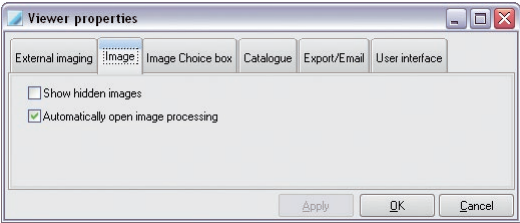


3.7 Viewer module (light table)

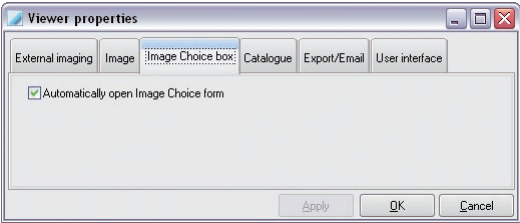
EN
US



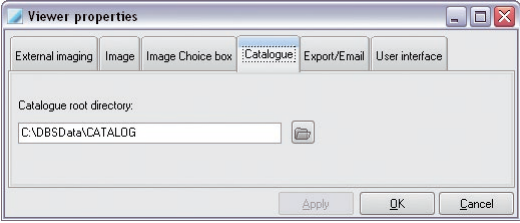
You can enter your preferred processing software for your images on the External image processing page.



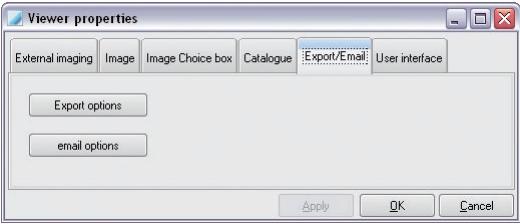
Under Image (second from left), you can choose whether hidden images should be shown in the image select box.



Under image selection box, you can choose whether the image selection box is automatically activated when the light table is opened.



You can set the path of the DBSWIN image catalog under Catalog. The catalog is available for the storage and subsequent opening of a selection of example images, which may be stored in a variety of addresses. These images can be subscribed to any patient. The images can be loaded in the light table with the Light table/Load/ Catalog menu item. The Export function can be used to save patient images on the light table in the Catalog.



Under Export/Email, it is possible to configure an image for export or to send an image as an Email.

The settings for Export and Email will be assigned the appropriate mode name. Therefore it is important to select a mode name that reflects as accurately as possible the function required, e.g.:

AutoExport:	Settings are used for the autoexport of X-ray and video images. This mode name is predefined and cannot be changed!
Health Insurance:	Image export to the relevant health insurance company



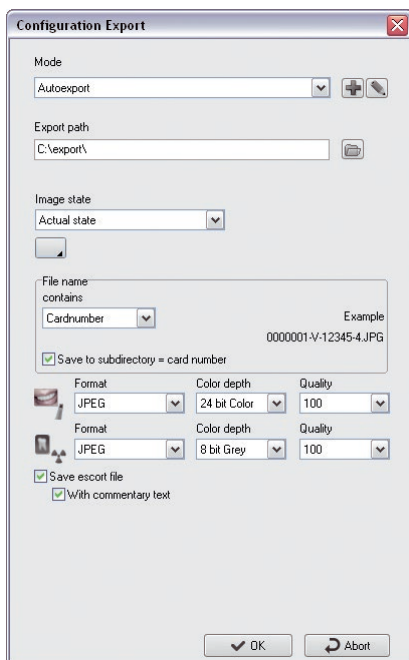
Create new mode



Edit mode



Further functions can be displayed using this symbol or can be hidden. This is possible only for users with administrator status!



: Selection of the export path where the images should be saved. Does not exist for email,

"Image Status": Status of the image to be exported,



: Expands the dialog for the specification of the file name: Enter the patient ID or keyboard input

"In the Subdirectory ...": Images are saved in the export path subdirectory (corresponds to patient ID).



: sets the format, depth of color and the quality of compressible image formats.

"Save Image Info File": The image info file for the image is saved with the image file name+ -info.txt in the export path (Xnnnn-nnnnnnn.JPG-info.txt).

"With Comment Text": Image comment texts are written to the image info file.

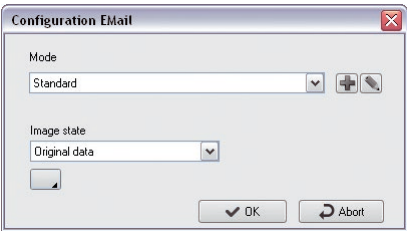
For video and X-ray images it is possible to select an image format from a list. Depending on the format it is possible to select the color intensity and the quality of compressed images.

A “rule-of-thumb” for the image quality, which is available after compression of the image file:

EN
US

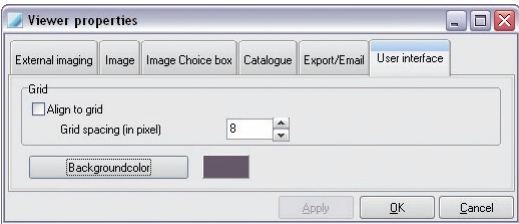
- 100 -> no visible loss
- 90 -> negligible loss
- 80 -> low visible loss
- 70 -> visible loss

Image Email configuration



The Export path field is no longer available under Email configuration.

User interface configuration



Grid spacing lets you specify the spacing of the lines of the invisible grid on the light table to which the recordings are aligned. The value is set to 25 pixels by default. The background color of the light table can be selected.



NOTICE
Do not send large image files by e-mail! If any problems are encountered, select a larger compression ratio. X-ray images that show evidence of loss of picture quality are not legally permissible for diagnosis in the Federal Republic of Germany!

3.8 VistaPano module



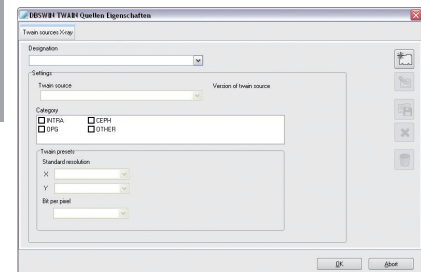
Use the button with the arrow symbol to open the program "VistaConfig", in which the appliances you are using will be selected.



If VistaPano has been correctly installed, then various unit IDs will be displayed.

3.9 TWAIN module

The "Twain X-ray Sources" module allows X-ray units from other manufacturers (e.g. digital OPGs, image plate scanners, X-ray sensors) to be integrated into DBSWIN via TWAIN. Images recorded via this interface are treated as images recorded with Dürr Dental appliances (entry in the X-ray log, etc..). An acceptance and constancy test can also be performed with DBSWIN using the unit.



Create new Twain X-ray source.



Edit existing Twain X-ray source.



Edit newly created Twain X-ray source.



Cancel creation of a Twain X-ray source.



Deleted created Twain X-ray source.

- Enter a name for the Twain source under "Designation".
- Select the interfaced and installed unit under "Twain Source".
- Under "Category", select the functions covered by the unit.

If resolutions are transferred by the Twain driver, these must be set under "Twain Defaults".

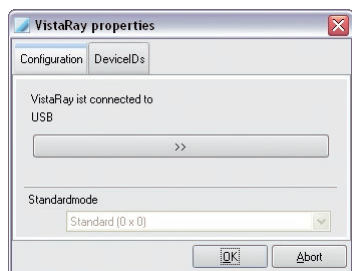
- Select a suggested value under "X" and "Y".



If different values are selected under "X" and "Y", no measurement can be made in an X-ray image with DBSWIN as DBSWIN can only calculate measurements with quadratic pixels.

- Enter a suggested value under "Bit per Pixel".

3.10 VistaRay module



To operate the VistaRay unit, various parameters have to be set.

You reach the "VistaConfig" program where the appliances with which you work are selected and configured via the button with the arrow symbols. The settings include the connections of the appliances, the calibration data, the printer output, etc. and should only be made by a service technician.

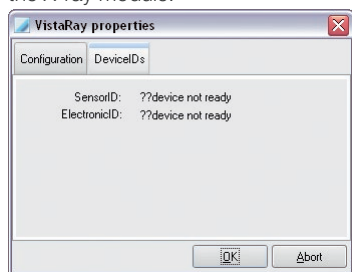


WARNING

All settings made can have a direct influence on the image quality and the functions of the devices.

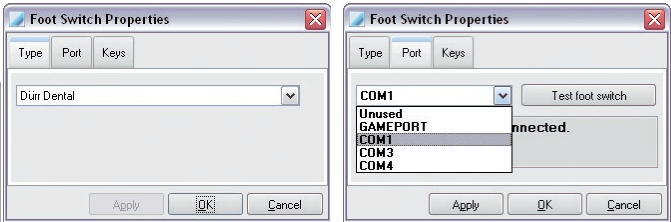
- › Changes must only be carried out either by Dürr Dental personnel or by a suitably qualified person approved by Dürr Dental.
- › Check and, if necessary, correct the changed image quality by importing a test X-ray image.

The "Standard Mode" selection field is used to specify which sensor mode is suggested per default in the X-ray module.



If your sensor is installed correctly, SensorID and ElectronicID are shown. To apply the settings, quit the dialog with OK.

3.11 Foot switch module



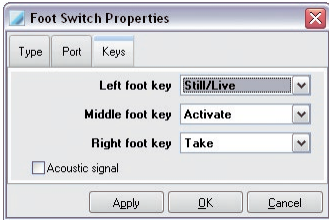
The Dürr or the Kavo foot pedal can be selected on the Type page.

Sirona foot pedal: For operation with the Sirona-Siucom interface, it does not matter which type is selected! The DBSWIN foot pedal key set-up must be imported in the Siucom program from Sirona (can be found in dbswin\bin\dbssiucom.msdc or .ind). In DBSWIN no further settings are needed! The Siucom program must be requested from Sirona. The connection to which the foot pedal is connected with your PC is selected on the Connection page.

KaVo foot pedal ErgoCom: Select KaVoERGOCOM Multibox type and the matching COMx connection.

Planmeca foot pedal: Select Planmeca and the corresponding COMx connection.

Dürr foot switch: Only with the Dürr Dental type of foot switch can the function of the foot switch be tested by clicking on the "Test Foot Switch" button and then actuating the pedal of the foot switch. Each key action will accordingly be displayed in the test box.



This page is only shown if the Dürr foot pedal is selected. The Function Keys allows each key to be assigned one particular function from the available program functions.

Activate the "Audible Signal" check box so that you hear a signal tone as confirmation each time the foot switch is actuated. This is sensible if the computer with the mouse is too far away from the workstation and, therefore, a foot switch is used for triggering recordings.

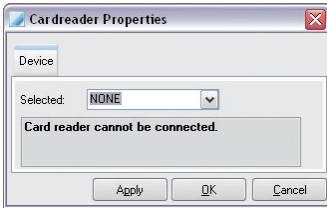
Functions:

- | | |
|-------------------|--|
| Record | = record image and add to image strip (Video module) |
| Still/Live | = changeover between still image/live image (without recording) |
| Full | = toggle switch between full screen/normal image |
| Activate | = activates image from the image strip (Video module) |
| Printing | = print |
| Still/Live+Record | = store changeover of still image and image in recording strips. |



NOTICE
Interfaces that are allocated in card reader module will not be offered for selection (not even if the card reader is not active).

3.12 Card reader module



In Card Reader-Features, the card reader interface is assigned.



NOTICE

Interfaces allocated in the Foot Pedal module will not be offered for selection (not even if the foot pedal is not active).

3.13 VistaScan module

In this module the control of the scanner of DBSWIN can be configured and tested with the VistaScan-Config program.



WARNING

All settings made can have a direct influence on the image quality and the functions of the devices.

- › Changes must only be carried out either by Dürr Dental personnel or by a suitably qualified person approved by Dürr Dental.
- › Check and, if necessary, correct the changed image quality by importing a test X-ray image.

The advanced functions available in this program may only be used by trained and certified service technicians. The VistaScanConfig program allows use of the following functions:

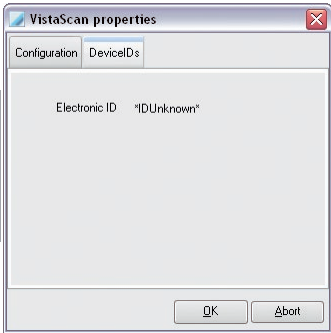
Standard functions

- Verify and set available parallel interface (Connection)
- Read in and display (test) an exposed image plate
- Verify ambient light conditions (Oscilloscope mode)

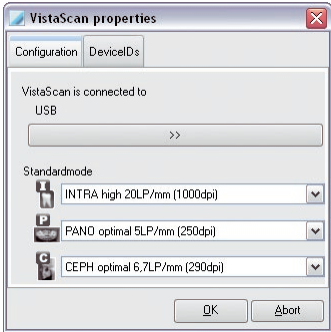
Further functions

- Adapt available parameter sets or extend by further sets
- Carry out test functions of the scanner (System check/Manipulation)
- Create and save available and current test reports (System check/Reports)
- Calibrate

Standard functions



Where a scanner is connected, the relevant Electronic ID of the scanner is displayed on the DeviceIDs page.



The interface that is used (USB or LPT) is displayed on the Configuration page.

For intraoral and extraoral X-ray exposures, the desired standard SCANmode can be set which will be proposed by default when opening the X-ray parameter mask of the X-ray module.

VistaScanConfig program

The VistaScanConfig program is opened by clicking the button with the arrow symbols. Further information can be found in the start menu of the DBSWIN-DVD under the "Documentation" tab and, here, under the "VistaScan" tab.

3.14 VistaNet module

Clicking the button opens the program VistaNetConfig. Further information can be found in the start menu of the DBSWIN-DVD under the "Documentation" tab and, here, under the "VistaScan" tab.

4. "Patient" Tab

4.1 General

Patient records can be opened, selected, amended, or deleted using the patient index. The index card displays all relevant patient information and an overview of existing images.

Patient View

DBSWIN 5.0.0 Practice: Dr. Smith 0000001.DENTAL, DUERR, 12.12.1980

File Study Patient Edit Options Checks Help

Patient Video X-ray Viewer

Card Number 0000001 Regular Dentist

Surname DENTAL Title

First Name DUERR Date of Birth 12.12.1980 Sex

Street, House Number Postcode Town/City

Hoefligheimer Strasse 17 74321 Bietigheim-Bissingen

Telephone no. Additional Field 1 Status

+49(0)7142/7050 +49 (0)7142 / 705-500

Additional Field 2 Additional Field 3

info@duerr.de

Cam (19) 03.07.2008 (25) 30.06.2008 (6) 21.08.2007 (1) 25.01.2005 (2) 14.01.2005

Video undefined 12

18 17 16 15 14 13 12 11 21 22 23 24 25 26 27 28

48 47 46 45 44 43 42 41 31 32 33 34 35 36 37 38

view Video images

Registered patient: 0000001.DENTAL, DUERR, 12.12.1980 200909-59532015

4.2 Functions



Open patient list, log on patient

By clicking on the "Open Patient List" button the patient list in which you can select a patient is opened. The selected patient is logged into DBSWIN and his data are displayed in the status line. You also swap between several logged-in patients via the patient list.

All functions can now be carried out for the selected patients (carry out image recording, view images on the light table, etc.).

All externally imported patients are automatically registered!



Patient goes (Patient menu)

By clicking on the "Patient Goes" button, the patient currently logged into DBSWIN is logged out and all data fields are emptied.



Attributing images made under Stand-Alone operation to office patients

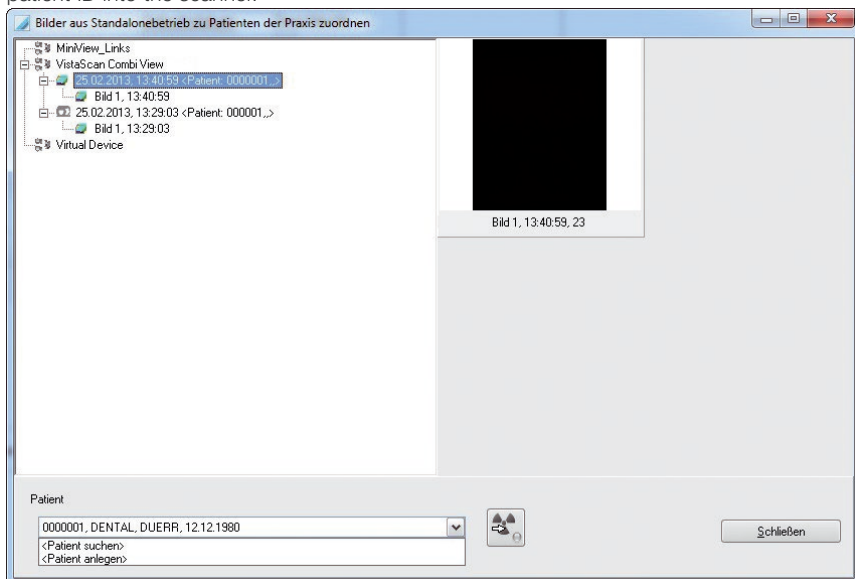
By clicking the button X-ray images made using a connected scanner operating as Stand-Alone can be filed under DBSWIN.



Transmit images to DBSWIN

Using this button, the selected images are taken from the scanner and transmitted to DBSWIN.

In order to simplify the attribution of images to patient, before scanning the image plates enter the patient ID into the scanner.



Select the required scanner from those listed. The list of scanned images taken is shown. Where the selected image has already been attributed to a patient in DBSWIN, this will be displayed in the patient field. If the selected image cannot be attributed to a patient, the respective patient can be searched for a new patient entry made. Click the button to accept an image. The images are accepted by DBSWIN and displayed in the X-ray module, where they can be edited and then saved.



Save patient or changes (Patient menu)

Saves the current changes to patient record.



Create new patient (Patient menu)

Click on the "Create New Patient" button in the "Patient" view to create a new patient. Fill in the fields. Save the patient by clicking the "Save Patient or Changes" button (index card and disk symbol). The fields for first name, last name, and date of birth are mandatory. If mandatory fields are not filled in or are partially or incorrectly filled in, an information window opens. You also have the option of canceling or discarding the data record by clicking on the "Discard Entries" button. If a card reader has been connected, feed the insurance card into the reader and click the "Create New Patient" symbol to enter the patient's records.



Edit patient data (Patient menu)

Click the "Edit Patient Data" button to change the patient data. Save the changes by clicking the "Save Patient" button.



Discard entries or changes (Patient menu)

Leaves the processing mode without saving the entries.



Delete Patient (Patient menu)

In order to delete a patient's records, select the patient from the database and click the "Delete Patient" button. The patient record thus selected will be deleted from the active database. If images of this patient are available in the database, you need to be aware that you cannot delete the patient during a deletion operation if there are X-ray images or archived recordings that need to be stored. In this case the patient will only be hidden and will not be viewed in the patient select list box. So you can select a hidden patient again, the "Display Hidden Patients" check box on "Configuration/Modules/Patient/Patient tab " must be activated. After that all the hidden patients are displayed in the select list box again marked in the additional Hidden column. If a hidden patient is selected, the hidden mark will be reset. The patient is then normally visible!



Display and record information on the patient (Patient menu)

By clicking on the "Additional Information about the Patient" button additional information such as allergies or remarks can be displayed and recorded or changed for each patient in the processing mode. The content of the first text line (A1) is always shown next to the "Supplementary information" button, if the "Show Additional Information" check box in "Configuration/Modules/Patient/Patient/" is activated.

Information window

EN
US

Additional Information

Allergies/Comments

AY
B2
C3

Important

Important notes according to patient.
Press button info.

OK

Cancel

Supplementary information
displayed next to the button



Create/delete patient image

An image can only be created in edit mode. The image can either be taken directly using an available video source or selected and even deleted from an existing image file (BMP, JPEG, TIFF). The data, however, is not saved before clicking the save button on the control bar.



Card Reader

This health insurance card is not used in all countries. For this reason, it is possible to fade out the Card Reader button and the fields for health insurance data. This is possible via set-up of the index card, which can be carried out under configuration.

The connection of an external card reader to a serial interface or the use of a card reader keypad of the type 'Cherry 1501' is possible. In any case the correct card reader must be configured once. Do this by loading the Configuration page under the Option menu and set up the card reader.

External card readers have to be configured for dialog operation with the PC. A suitable connecting cable is required for this purpose.

For using the Cherry keyboard, the drivers delivered by the manufacturer must be installed. In Cherry card reader keypads there is also a mode selector switch that must be switched to Mode1.

Attention: A changeover only takes effect after a restart!

For further information, please refer to the manufacturer's handbook. The card reader cannot be used to amend an existing patient's record.

In search mode:

Place the insurance card in the reader and slide through the reader and click the card reader key. If a patient record exists, this will be displayed. Where no record is present, the system will switch to edit mode and the card data is entered into the fields. Simply click the save key (cancel is also possible). The patient record is created.

Create

You can use the card reader to create a new patient by clicking the "Create New Patient" button, pushing the card into the slot, and clicking the card reader button. Then click Save.

Extra Fields

Next to the predefined data fields there are four freely definable supplemental fields that can be filled with any entries, e. g. with the fax number or email address of the patient. The extra field number 1 is located next to the telephone number and the other three above the image overview. The labeling of these fields is free for the user to specify and whether they are displayed or not. This can be specified under "Configuration/Modules/Patient/Extra Fields".



Patient data import

This button lets you accept patient data from other programs, e. g. practice management (settings in Configuration/ Modules/ Patient). Click the red-framed button to import the external patient and the patient will be selected directly where the patient is already stored in the database. If not, the system will be set to "Create New Patient" mode. If a patient with identical name but different patient ID is already stored, the system switches to "Edit Patient" mode. Here you have to click the "Save Patient or Changes" button to save the changes in the database.

Search Patient

In order to find a patient in the database, click the appropriate index alphabet field for the patient.

The screenshot shows a window titled "Patient List" with a search criteria section at the top. Below the search criteria, there is a table with the following data:

Card Number	First Name	Surname	Date of Birth	Postcode	Town/City	Street, House
0000001	DUERR	DENTAL	12.12.1980	74321	San Francisco	Cardigan Road 17

At the bottom of the window, there are tabs for "Patients" and "Recent patients", and buttons for "OK" and "Cancel".

Now all patients with this initial letter are displayed in the patient list. Move the cursor down the list to select the correct patient. If the list contains several entries, you can enter or select further parts of the name in the Search criteria area or other criteria in the corresponding fields, thus narrowing down the search results. The list of patients is automatically adapted to the search criteria.

You can also select the patient ID as a search criterion to enable the patient selection via the number you assigned. Enter the number directly or click on the Calculator symbol in the Patient ID search field to use the calculator.

Attention: Patient ID is a character string with a maximum of 15 digits, which is evaluated from left to right! For example: Search string 001T-A0 gives a list of results 001T-A0* where * indicates any character!

Patient List

Search criteria

Card Number

First Name

Surname

7

8

9

C

4

5

6

←

1

2

3

↵

0

*

↵

It is also possible to enter the patient name in the "Family name" field or enter the patient ID number in the field of the same name in the patient overview. Select a patient from the list by clicking on the entry with the left mouse key and confirm with OK.

You can swap simply between registered patients via the "Last Registered Patients" tab.

Patient List

Registered	Card Number	First Name	Surname	Date of Birth	Postcode	Town/City	Street, House Number
28.09.2009 17:50:32	0000001	DUERR	DENTAL	12.12.1980	74321	San Francisco	Cardigan Road 17
28.09.2009 17:49:13	123456789	John	Smith	18.12.1967	12345	London	Manchester Road 11

Patients

Recent patients

✓ OK

↺ Cancel

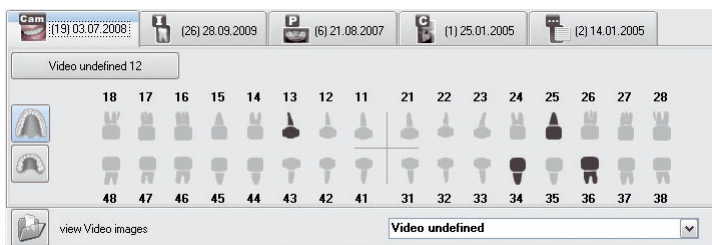
Image Overview

On the index card you can see the "Image Overview" operating panel, which, in addition to the visualization of existing images of the current patient, also enables you to swiftly retrieve images of specific teeth or of a specific image type for viewing on the light table. On top of the tabs the number of existing images is indicated next to the symbol for the image type as well as the date of the last recording. Selection of one of these tabs leads to highlighting of one page. The number of undefined images of the current image type is displayed. Existing tooth images are displayed in that the appropriate tooth is highlighted.

Display Images

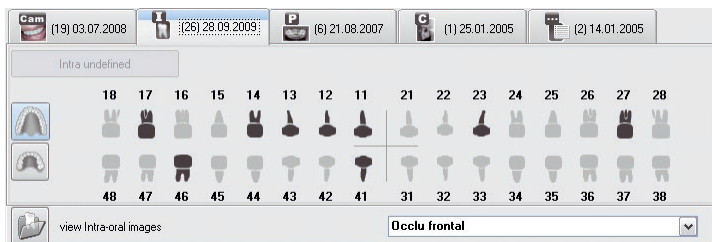
Every page of the image overview has a key, which facilitates switching to the light table from where all images of this type (all video images, all intraoral images or all extraoral images) can be displayed on the image clipboard of the image select box. The push-button is only available when images of the patient of this image type are available. You can click "X-ray Undefined" or "Video Undefined" to swap to the light table. All undefined images of the current image type (video, X-ray) are displayed on the image clipboard of the image selection box for selection. This field is only available where images of the current patient and current image type are actually available. Furthermore, the pages for video and intraoral images each contain a tooth plan where teeth for which there is an available image are highlighted. Further image types will be displayed in an options list where available. The options list is only released if corresponding image object types are available from patient recordings. On the page for extraoral images all stored images are displayed in three options lists. A click on the tooth or on an options list item switches to the light table and all images of this image object type are displayed on the image clipboard of the image selection box.

Video Images



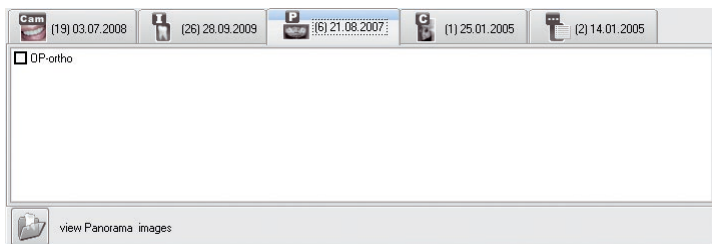
On this page a plan of the teeth of all single video images of the patient. Where images are present, teeth have been highlighted in color.

Intraoral Images



On this page a plan of the teeth of all intraoral images of the patient. Where images are present, teeth have been highlighted in color.

Panorama images



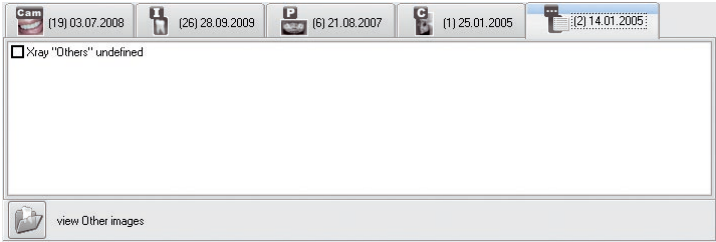
All available extraoral X-ray images except undefined images are displayed in three selection boxes.

Far X-ray images



All available extraoral X-ray images except undefined images are displayed in the selection boxes.

Other X-ray images

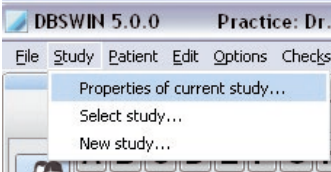


All other images are displayed here.

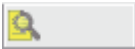
Properties of an examination (Examinations menu)

The images and views for a patient that were created on a specific day for a specific purpose or in the frame of a specific order/diagnosis are summarized in a examination. The examination of the registered patient created last on the current day is always active. The examination menu can be used to open the current examination data, swap between the examinations that are available for a patient and create a new examination.

This function is mostly used in conjunction with DICOM (see "DBSWIN DICOM Manual", No. 9000-618-96/30). If necessary, you must order and release DICOM via the central release.



Click on "Properties of the Current Examination...". The "Examination" window appears with the corresponding information.



Swap examination (Examination menu)

This function can be used to swap other examinations to the registered patient. The symbol with the magnifying glass appears in the status line if several examinations are available for a patient. The process number appears next to the symbol.

Click on "Swap Examination ..." in the "Examination" menu or on the symbol in the status line. The window for selecting a examination appears.

Select Study or Step

Study

Accession number	Description	ID	Referring Physician	Date	Time	Reference
200909-57394425	Study	28.09.2009	20090928 155634	28.09.2009	15:56:34	
200906-47820025	Study	15.06.2009	20090615 131700	15.06.2009	13:00:17	
200906-48184068	Study	04.06.2009	20090604 132304	04.06.2009	13:23:04	
200903-50041203			20090305 135401	05.03.2009	13:54:01	
200903-39022531			20090302 105022	02.03.2009	10:50:22	
200903-31856203			20090306 085056	17.09.2003	17:34:25	



Select examination

Click on a examination in the list with the left mouse key and then on the "Select Examination/Work Step" symbol. The marked examination is loaded.



Display details of examination

Click on a examination in the list with the left mouse key and then on the "Detailed View" symbol. The detailed information on the examination is displayed in the "Examination" window.



Create new examination (Examination menu)

This function can also be used to explicitly specify a number of examinations on one day to a patient. You can separate images for different orders/diagnoses better like this.

Click on the "Create new examination" symbol with the left mouse key. The "Examination" window for entering the data appears. Some ID data are already available, but can be manually adapted.

5. Light table

5.1 General

The light table allows free arrangement of images selected. You have the possibility to choose between a preset order, to arrange images as required, to move, to enlarge and to process them.

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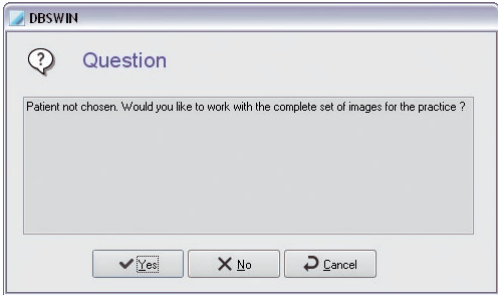
5.2 Global image search

When transferring from the Patient mode to the light table and no patient name has been selected, then it is possible to work with the complete image archive. For example, to find a particular image.

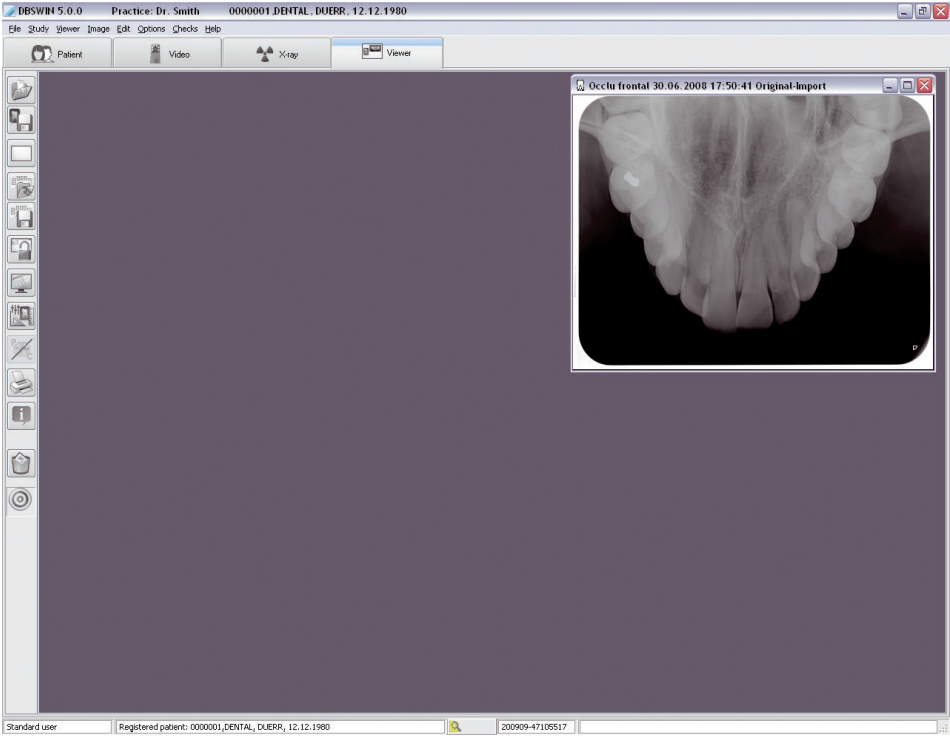


NOTICE

Note that this process can take a longer period of time if all the office images are to be displayed in the Image selection box.



View



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5.3 Functions

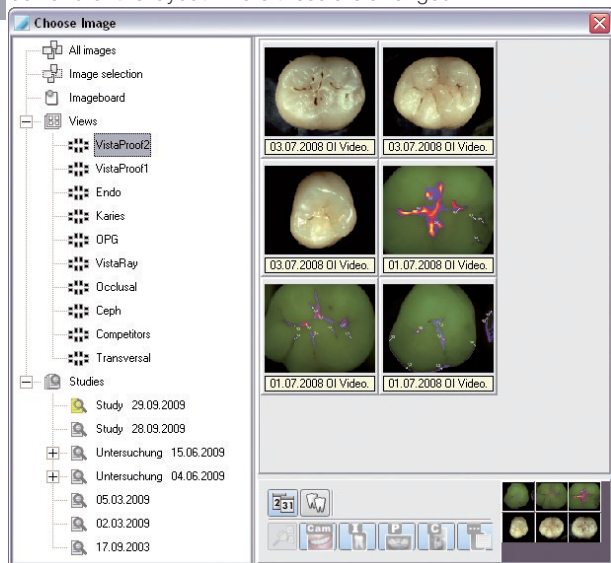


Load an image (Light table menu)

To load an image from the database onto the light table, click the "Open image selection box" button. The image selection box is opened.

In the image selection box you can see the images assigned to the patient that are summarized into views or into examinations. The active examination is marked in color.

When selecting a view, a preview of the images appears in the lower right corner of the image selection box and of the layout where these are arranged.



When an image in the box is double clicked with the left mouse key, it will be displayed in full size on the light table.

You now have the possibility of loading several images side-by-side onto the light table. To do this, click on the desired image in the image selection box and keep the mouse key pressed. Drag the image using the mouse onto the light table. The selection box is closed and you can drop the image in "free-hand mode" at any place on the light table. In "Fixed Mode" you can drop the image only in an existing image frame.

If no empty image frames are open on the light table, load a mask. After removing an image the image selection box reappears and a new image can be opened. Images can only be opened once. This is shown by the image information line that has a colored background.

You can also open a whole view or a complete examination (that contains several images) on the light table. To do this, click on the symbol of the desired view/examination and keep the mouse key pressed. Drag the mouse cursor onto the light table and let go of the mouse key. All images of the view/examination are now opened on the light table.

In a view the images are arranged in the layout that was saved with the view. In an examination the images are arranged tiled beginning from top left.

Load image status (Image menu)

If several views of an image are available, the list in the "Load Image Status" submenu is expanded. You can also load a certain image status that exists for an examination, for example, from the list except for "Original", "Initial saving", "Diagnostic Status" and "Last Saved".



Save image (Image menu)

Saves the active image, or its changes, to the archive.



Clear Light Table (Light Table menu)

Clears the light table (all images and frames are removed).



Fixed mode (Light Table menu)

Activates the "Fixed Mode" by clicking the "Changeover between Fixed and Freehand mode" button. The current mode is displayed in the status bar and indicated by the symbol. The image frames cannot be dragged in "Fixed Mode".

Drag&Drop can be used to move images between image frames. Move an image from its frame to a new frame that is occupied and release, the two images will switch places.



Freehand Mode (Light Table menu)

Activate the "Freehand Mode" by clicking the "Changeover between Fixed and Freehand Mode" button. The current mode is displayed in the status bar and indicated by the symbol. The image frames can be moved as desired on the light table in the freehand mode.



Full screen

Shows current image without additional elements as Full Frame Groups.

View

Individual images of a patient can be summarized into views to summarize, for example, the important recordings of a session or series of sessions.



Save view (Light table menu)

If the current image arrangement is to be saved on the light table, select the "Save View As" command from the Light table menu. The save view/mask dialog appears. You will now be asked to assign a name to the new group. Information concerning the group can be entered in the window below. Then click "Save". A saved view can be loaded, changed and saved under the same or another name.

You can specify in each case whether "View and Images" or only the "View" are/is saved when saving. "Save View and Images": All changed images are also saved, i.e. the "Last Saved" image status is updated.

"Save View Only": The image changes are only saved in the view, i.e. the "Last Saved" image status is not updated.

"Prompt Each Time": At each save a dialog appears with the prompt of whether the save should be carried out with or without image changes.



Load view (Light table menu)

To load a view, select "Load/View" in the Light table menu. The load menu with the available groups will be opened and the required group can be selected from the list. Place the mouse cursor over the name of the group to be opened and click the left mouse key, then click "Load Masks/Group".

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Delete view (Light table menu)

To delete a view, select "Delete/View" in the "Light Table" menu. A list of available views opens and you can select the view you require from the list. To do this, position the mouse cursor on the name of the view in the list, click the left mouse key and then on "Delete".

Masks

A number of different masks (empty frames) can be organized on the light table simultaneously. Standard image arrangements, for example, can be quickly created in this way without having to sort the images on the light table.



NOTICE

Images that are within the image frames will not be saved! These masks are independent of the patient and are always available.



Save a Mask (Light Table menu)

To produce a new Mask, arrange the images in the desired sequence on the light table. Select from the light table menu the option "Save as Mask". You will now be asked to assign a name to the new mask. Then click "Save".

When saving, only the image frames without images are saved. If you want to automatically load defined object recordings when loading the mask in the corresponding image frames (e. g. semi status), these image frames must then be assigned before saving the object type numbers. This can be achieved by copying an available intraoral image tooth 14 (object type number) and then using paste. The imported image must now be assigned the required object type by using the Image info function. This process must be repeated for all the desired objects in the semi-status. After saving under an appropriate name this layout will be available for the automatic loading of all the newest, matching images.



Load Mask (Light Table menu)

For loading a mask, select from the light table menu the option "Load Mask". The load menu with the available masks will be opened and the required mask can be selected from the list. Place the mouse cursor over the name of the mask to be opened and click the left mouse key, then click "Load".



NOTICE

If you want the mask to automatically select the latest matching images, mark the appropriate option field "Load Newest Images".

Delete a mask (Light table menu)

To delete a mask, select the "Light Table/Delete/Mask" option in the menu. A list with the available masks will be opened and the required mask can be selected from the list. Place the mouse cursor over the mask name in the list and push the left mouse button. Then click the delete field.



Image processing (Image menu)

You can edit an activated image by clicking on the "Edit Active Image" button or by double clicking on the image. Please read the Image Processing section for information on the relevant functions.



Caries/Prophylaxis filter

This button can be used to swap between the prophylaxis mode and the caries mode. This button is only active in combination with VistaProof, VistaCam iX with a proof exchangeable head and VistaCam iX HD with a proof exchangeable head (not with VistaCam Digital or others). For more information, applications, and analysis, see the installation and operating instructions for the unit. The currently active view can be identified from the symbol:



"P": Camera is in prophylaxis mode



"C": Camera is in caries mode



Print (Light Table, Image menu)

This option in the light table menu allows an image or number of images on the light table to be printed. For further information, read the "Printing" chapter in the handbook or the Help.



Image information (Image menu)

To enter, edit or display information on the active image, click the "Image Information on Active Image" button. This displays the image information box for the current image. On the "Indication/Comment" page you can see information on the indication and you can enter text information on the image. The texts of the shortcut keys can be copied to the text area with the right mouse key. The first comment can only be entered once and cannot be changed after saving.

The "Image info" page displays image type, image size, object type (e. g. tooth number) and object area (e. g. tooth area). By clicking the "Select" button in the "Type" area in the center of the screen, you can select the tooth number of the main object, for example, and confirm your selection with "OK". Entering the object range now displays the previously selected main object with a blue background and you can continue to mark teeth that are within the area of the image. All selected objects are displayed as text in the "Area" field; related objects within a quadrant are displayed with a hyphen between the first and last object (e.g. 12, 13, 14 -> 12-14).

The production details of the image are displayed on the "Details" page. In addition, the user responsible for the image is also listed.

The "X-ray" page displays the values entered so far; these values can be edited.

Information on the image file is given on the "Image Status" page.



Delete an Image (Image menu)

An image can only be deleted if it has not yet been archived in the DBSWIN long-term archive and is not subject to any statutory retention time (e. g. X-ray images)! DBSWIN inquires at each image whether the image should be hidden only. This means that the image is no longer displayed in the image selection box until the "Display Hidden Images" check box is set in the "Configuration/Modules/Light Table". As soon as the picture is loaded on the light table the picture is hidden, but it is always indicated in the image selection box.



Drop Surface

If one or more images have been dragged to this area using Drag&Drop, the following functions for the image or images are displayed in a list.

- Export
- Send email
- Copy to image clipboard of image selection box



NOTICE

In order to send emails an SMAPI Client (e. g. Outlook Express) must be installed!

Activate an Image

A simple left mouse click activates the corresponding image (the color of the image bar changes to blue).

Import (File menu)

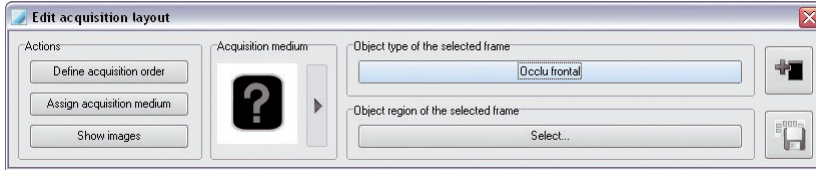
This menu function allows images to be imported. After selecting this menu function, a window drops down which allows you to select the appropriate image file. Then click the "Open" menu. The image is now depicted on the light table and can be processed. To save the image to the database, click the "Save Active Image" symbol. You must now assign an image type to the imported file; otherwise, the image cannot be saved.

Load catalog (Light table menu)

In a catalog you can summarize and open several patient-spanning images. This can provide you with a good overview of treatment successes, for example, or specific topics.

Creating/Editing recording scheme (Light table menu)

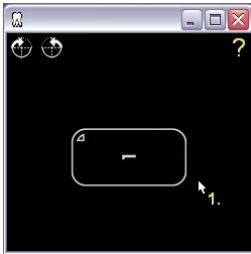
This function can be used to create masks that are then available via the "Load View/Mask" menu on the "Masks" tab or in the "Record Image" menu for the creation of series recordings.



Add new frame

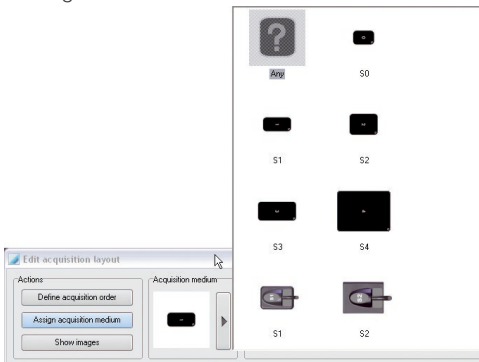
Clicking on the "Add New Frame" button creates a new frame on the light table that can then be assigned a position in the sequence, a recording medium and an object area.

If you want to arrange the image frame in a certain sequence, click on the "Specify Sequence" button in the "Actions" area. A question mark appears in the top right corner of the image frame. The mouse cursor is extended by the numeral "1." that you drag into an existing image frame and can assign with a click of the mouse.

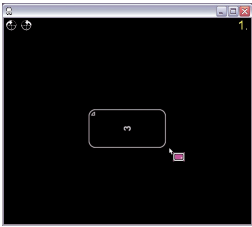


The numeral "2." then appears at the mouse cursor that you then assign to the next image frame until all image frame are numbered.

If you want to allocate a certain medium (sensor, image plate) to the image frame, click on the button with the arrow symbol in the "Recording Medium" area. You can select a medium in the pop-up field by clicking with the mouse.



The mouse cursor is extended by the symbol that you then drag into an existing image frame and can assign with a click of the mouse.

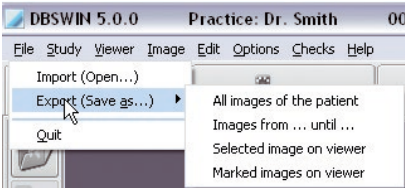


Save recording scheme

You can save the recording scheme you created.

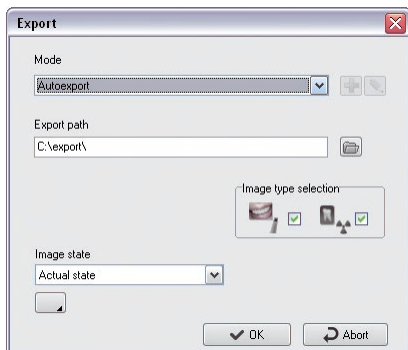
Export (File menu)

This function allows images in various formats to be exported, e.g. to process these further or to make them available to others.



You can either confirm an available export mode (setting under "Configuration/Modules/Light Table") from the list and select or confirm the directory where it is to be sent. If you want to use a different mode than that proposed in the predefined Image status for export, this can be selected from the options list under Image status. Detailed information concerning the image formats can be found under "Configuration/Modules/Light Table/Export-Email". Further selection criteria are partly explained in the following section.

5.4 Export functions



All images of the patient

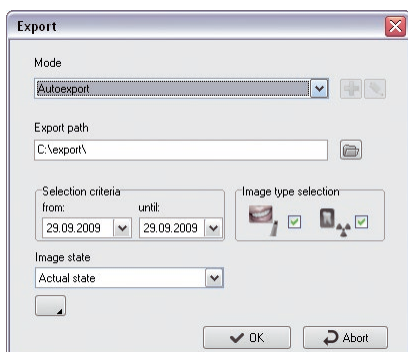
"Image Type Selection": Selection for video and X-ray images

"Image Status": Image status of the exported image



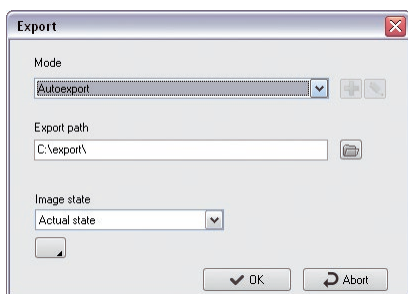
: Activate extended function view! Only visible for users with administrator rights.

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Images from ... to ...

"Selection Criteria": Selection of the period of the images to be exported



Selected image on viewer

- Only the active image (blue image bar) is exported!

Marked images on the light table

- All images marked with a red tick are exported (Ctrl + left click)

Users with administrator rights have the ability to change all the parameters for the current image export using the further options.

Any changes made to the current mode will not be stored. This can only be done under "Configuration/Modules/Light Table/Export-Email"!

Image status

All five image statuses, Original, First Saved File, Diagnosis, Last Saved, and Current Status, can be exported.

All visible colored graphic elements presented in the image on the light table will be added to the exported image (burned-in) as grayscale!

The Toolbox supports the following four drawing levels whose graphic elements can be made visible or invisible either individually (On check box) or all together (All check box):

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Angle measurements



Length measurements of lines and polygons



Density along a line or polygon








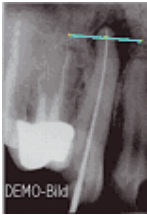
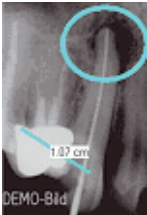







Text, line and closed line elements

Examples of images exported under varying image status

Not visible = drawing level is not visible or no graphic element is present

Not possible = image status does not support drawing level

Display	Original status	Initial save	Diagnosis	Last stored image	Current status
	Not possible	Not visible	Not visible	Not visible	Not visible
	Not possible	Not visible	Not visible	Not visible	Visible
	Not possible	Not visible	Not visible	Visible	Not visible
	Not possible	Not visible	Visible	Not visible	Visible
Light table image					
export. Image"					

Duplicate an Image (Image menu)

Creates a duplicate of the active image on the light table.

Assign an image (Image menu)

Opens the Patient List so that an image can be assigned to another patient who is listed in the patient directory. Archived images can no longer be reassigned!

Arrange (Light table menu)

Automatic sorting of all images which are on the light table at the moment.

Align to grid

Aligns the images to the defined pixel grid of the light table.

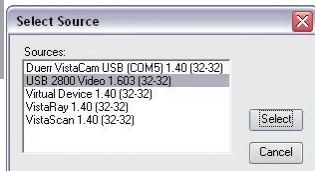
Fixed mode

Changes over the arrangement of the images to fixed mode.

Imaging (Image menu)

The active image is transferred to an external image-editing program as a call-up parameter. The external image-editing program available must be entered in "Configuration/Modules /Light Table/ Imaging". After closing the imaging program, the altered image will be displayed on the light table and can be stored as a duplicate!

Select source (Light table menu)



Select the unit that you want to use to scan an image under this menu item.

Scanning (Light table menu)

This menu item enables you to accept images from a TWAIN source (e. g. scanner). After the selection of a source via the "Select Light Table/Source" menu item and selection of this menu item, the DBSWIN-SCAN window opens in which you can select the TWAIN source and activate the image capture. The number of images taken is shown. After closing the DBSWIN-SCAN window these images are displayed one after the other on the light table.

To store the image in the database, click the "Save Active Image" push-button (disk and tooth symbol). You must now assign an image type to the imported file; otherwise, the image cannot be saved.

Marking images

Mark image with red tick: Ctrl key and mouse click in the image area.

The image to be marked in this way can be in the Image selection box or on the light table. If an image is marked from the light table, then the thumb image in the Image selection box will also be marked and vice versa. Several images can be marked at once.

An image or all marked images of the image selection box or of the light table can then be saved, saved as a view, deleted, exported, sent per email or copied to the image clipboard of the image selection box.

The functions for marked images: Save, Save as group, Delete, Export, Send per email and Copy to the image clipboard of the image selection box are available per:

- Ctrl key + Drag&Drop
- Context Menu/All selected
- Main Menu/Light table/Mark All



Image selection box

You can freely scale the size of the image selection box by pulling with the mouse on the edges or corners of the box.

The image selection box can be updated in the context menu with "Update" (right click). This means that those images, which may have been taken at other stations in the meantime, are also displayed. The image selection box is displayed by clicking the "Open Image Selection Box" button. The image selection box enables you to choose the required image from those saved for displaying on the light table.

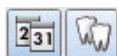
Display bar

Here you can swap between the display of all images, the images on the image clipboard and the saved image views or examinations of the patient.



The image clipboard serves to store selected images temporarily. If images are transferred to the light table (e. g. by the patient, video or X-ray module), these are then saved as a copy on the image clipboard. This allows immediate access to the images. It is also possible to copy a particular image from the image selection box or from the light table onto the image clipboard. The current content is deleted as soon as new images are copied into the image clipboard.

Buttons of existing views are displayed under the "Image Clipboard" button. A view can be loaded onto the light table per Drag&Drop. The images of the view are displayed in the image selection box by clicking on the desired button.



Sorting of images by date/object type

The images can be sorted in the image selection box according to date of creation or to object type. Within the sorting according to object type images are also sorted according to date of creation.

You can display particular images only by using a filter on the stored images. This is especially recommended when a large number of images of a patient are available.



Global image selection filter

You can show or hide the desired image types by clicking the "Intraoral Images" (image number 1), "Extraoral Images" (image number 2) or "Video Images" (image number 3) buttons.



Advanced image selection filter

After clicking the "Filter Selection" button, the advanced filter selection box is displayed for all image types. Teeth to which an image already exists are highlighted in color in the tooth overview. Clicking the cursor over the relevant tooth loads the appropriate image. You can make separate selections for the three areas "Video", "Intra", "OPG" and "Ceph" so that only the desired images from the available recordings are displayed in the image selection box. Recordings of the "Panorama" (OPG), "Remote X-ray" (Ceph) and "Other" types can be displayed by marking the corresponding check box.

Additional selection criteria for filtering the display of images can be entered and activated for all types of image.

Show only ...

☐ Images with comment ☒ Original ☐ Search for object type in region too

☐ Images between ☒ Duplicate



VIDEO filter settings

Choose filter

☒ Video ☐ Intra ☐ OPG ☐ Ceph ☐ Other

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

☒ Video undefined
☒ Occlu Mandibula
☒ Mandibula

Show only ...

☐ Images with comment ☒ Original ☐ Search for object type in region too

☐ Images between ☒ Duplicate



INTRA filter settings

Choose filter

Cam Video **Intra** OPG Ceph Other

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

☒ Bitewing
☒ Bitewing-LM
☒ Occlus frontal

Select

Show only ...

☐ Images with comment <Without comment> ☒ Original ☐ Search for object type in region too
☐ Images between 30.08.2009 and 29.09.2009 ☒ Duplicate



OPG filter settings

Choose filter

Cam Video Intra **OPG** Ceph Other

☒ OP-ortho

Show only ...

☐ Images with comment <Without comment> ☒ Original ☐ Search for object type in region too
☐ Images between 30.08.2009 and 29.09.2009 ☒ Duplicate



Ceph filter settings

Choose filter

Cam Video Intra OPG **C** Ceph Other

☒ Head-PA

Show only ...

☐ Images with comment <Without comment> ☒ Original ☐ Search for object type in region too

☐ Images between 30.08.2009 and 29.09.2009 ☒ Duplicate

✓ Ok ↺ Cancel



Other filter settings

Choose filter

Cam Video Intra OPG C Ceph **Other**

☒ Xray "Others" undefined

Show only ...

☐ Images with comment <Without comment> ☒ Original ☐ Search for object type in region too

☐ Images between 30.08.2009 and 29.09.2009 ☒ Duplicate

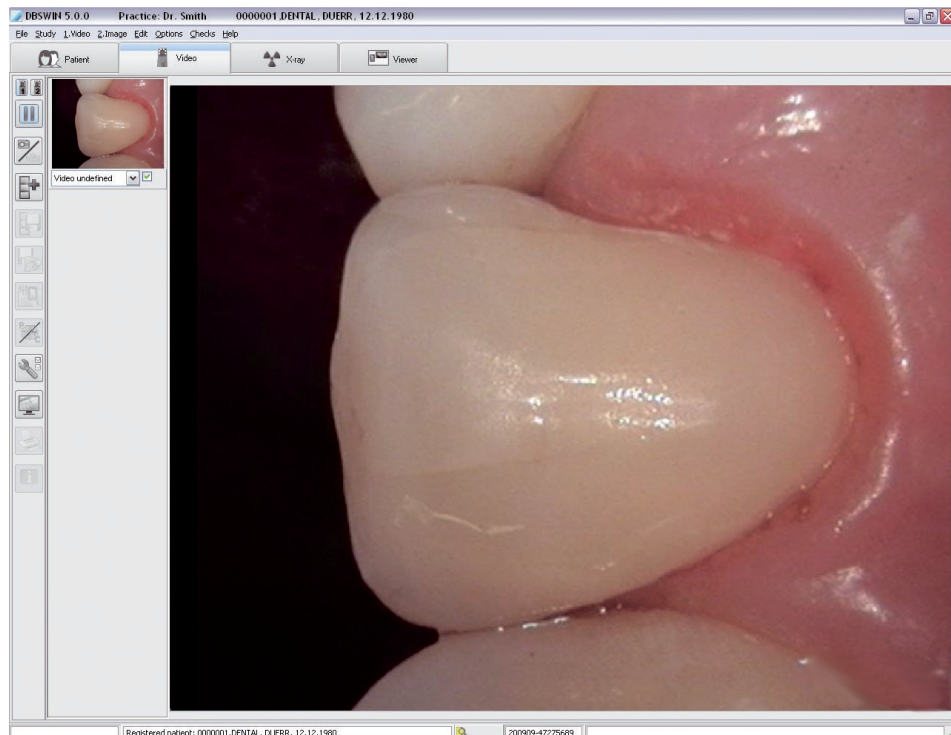
✓ Ok ↺ Cancel

6. Video

6.1 General

The Video module allows you to make images as well as to edit and to save the images recorded. The current image from your video sequence is displayed. Individual images or image sequences can be transferred to the light table for viewing and editing.

View



6.2 Functions



Select video source

To select one of the two video sources, please click one of the buttons.

Precondition for the selection is that two cameras have been connected and configured in the "Video" module.



Still Image (Video menu)

To obtain a still image of the selected video source, please click the "Live/Still Camera Image" button. The image will now be frozen and various options can be selected, you can click the "Record Image" menu window and transfer the image to the image strip, enlarge to full frame by selecting "Video Full Screen" or print by selecting "Print Active Image". Clicking the "Live/Still Camera Image" menu option brings you back to the live image screen.



: Record image/video

This button activates/deactivates video recording mode. The video is placed into image strips and marked for saving.



: Video recording mode activated



: Video recording mode deactivated



: Start video recording



: Stop video recording



Live Image (Video menu)

In the Live Image mode you can view live recordings of your video source. You can hide the control elements and change to full screen mode by clicking the "Video Full Screen" button.



Image Recording (Video menu)

In order to record an image displayed on the monitor, click the "Image Record" button. The image is now placed into image strips and is already marked for saving. Repeat for further recordings.



Save Images (Video menu)

Only those images marked will be saved in the database. Before saving images for the patient currently selected, you should make sure that the correct object type (tooth number or recording type) has been selected.



Save and open on the light table (Video menu)

Only those images marked will be saved to the database and transferred to the light table. There they will appear initially on the image clipboard of the image selection box. Before you save images for the patient currently selected, you should make sure that the object type (tooth number or recording type) has been correctly assigned.



Image processing (Image menu)

You can edit the active image further by carrying out one of the following actions; click the "Image Processing" menu window in the editing tools list, double click anywhere within the borders of the image or click the right hand mouse key while the cursor is within the image which will open the editing functions. Please refer to the "Image Processing" chapter in the manual or the online help for a detailed description of these functions.



Brightness / Contrast

If you click on the "Video Color Control" button in the live image view, a menu appears where you can make the video settings and select a profile.

The display of the menu items depends on the connected or installed hardware. Individual menu items may be grayed out (cannot be selected).

"Resolution"

"Video Capture Filter"

"Video Crossbar"

"Video Capture Pin"

During the installation of a frame grabber card the Service department can select the sources for your frame grabber card here. For further information you are referred to the handbook of the Frame grabber.



Full Screen Mode (Image menu)

You can also display the image in full monitor size in the main window either by clicking on the "Video Full Screen" button or by pressing the assigned button on the foot switch (if present!). You can change to the normal view by actuating the foot pedal, by making a right hand mouse click and selecting Full Frame from the context menu or by clicking any key. This mode is not supported by all graphic cards! If your Frame grabber does not support this mode, all program elements will be faded out and only the video frame displayed (not full screen).



Print (Print menu)

This function allows you to print the current active image or all the images on the light table. For further information, read the "Printing" chapter in the handbook or the Help.



Image information (Image menu)

In order to enter information for the active image or to edit or display, click on the "Information About Current Image" button. This displays the image information box for the current image. The "Comment" page is available to enter text information on the current image. The texts of the shortcut keys can be copied to the text area with the right mouse key. The first comment can only be entered once and cannot be changed after saving.

Image type, image size, object type (e. g. tooth number) and object area (e. g. tooth area) are displayed on the Image info page. By clicking the "Select" button in the central window area you can select the tooth number of the "Main Object", for example, and confirm your selection with "OK". Entering the object field will cause the area of the previously selected "Main Object" to be displayed with a white background and you can now mark the target teeth in the main image. All objects selected in this way are now displayed as text in the "Area" field; related objects within a quadrant are displayed with a hyphen between the first and last objects (e. g. 12, 13, 14 -> 12-14).

The production details to the image are displayed on the Details page. In addition, the user responsible for the image is also listed.



Caries/Prophylaxis filter (Image menu)

Use this button to switch between the prophylaxis/plaque mode and the caries mode. This button is only active in combination with VistaProof, VistaCam iX with a proof exchangeable head and VistaCam iX HD with a proof exchangeable head (not with VistaCam Digital or others). For more information, applications, and analysis, see the Installation and Operating Instructions for VistaProof. The currently active view can be identified from the symbol:



"P": Camera is in prophylaxis mode



"C": Camera is in caries mode

Activate image of image strip (Video menu)

Click on an image in the image strip to display it in the main window. You can activate the previous image by choosing the "Next Image" menu option in the "Video" menu.

Mark image to be stored

There is a check box below the bottom border of the images that are displayed in the image strip. Clicking on this field allows the image to be selected or deselected for storing purposes.



NOTICE

Only images that are checked are saved or transferred to the light table.

Assigning images

The images in the image strip can be labeled with appropriate information (such as object type, tooth number and type of image). To open information on the object type, either click on the pull-down menu at the lower edge of the border of the desired image in the image strip and select the required item from the list or select the "Information About Current Image" button.

Operation with the foot pedal

In the video function part of the program it is possible to carry out some functions with the aid of a foot pedal.

It is possible to assign a number of functions to the foot pedal in the configuration menu:

Record	= record image
Still/Live	= still image / live image
Full	= full frame / normal image
Activate	= proceed to next image in image strip and display in main window
Still/Live+Record	= still image / live image + record image
Printing	= print current image

Operation using key combinations

All of the important options are also available using the keyboard. This allows control by an external program.

Press the ALT key in order to activate the menu. Then press the appropriate number as required from the upper menu bar and which is underlined. Then press the number that corresponds in the pop-up menu that appears to access the required command.

For example:

Live = ALT + 1 + 1

Freeze = ALT + 1 + 2

Full = ALT + 2 + 1

Activate = ALT + 1 + 6

Print = ALT + 2 + 4

Operation with capture ring

The most important functions of the VistaCam with capture ring can be initiated by the pressure-sensitive ring of the capture ring. The following functions may be assigned via the Configuration/Modules/Video configuration menu:

Record = record image

Still/Live = still image / live image

Full = full frame / normal image

Activate = proceed to next image in image strip and display in main window

Still/Live+Record = still image / live image + record image

Printing = print current image

7. X-rays

General

The intraoral X-ray recording systems VistaRay, VistaScan and VistaPano enable X-ray images to be created / digitalized and saved. Every X-ray image is assigned to the patient currently selected. All X-ray images are stored as the original data and are not modified by DBSWIN. If X-ray images are edited with the image processing functions, this does not affect the original image. Information is simply added and can be undone any time as desired. If you have assigned an X-ray image to the wrong patient, you can always assign it to the correct patient. This can be carried out at the following two places:

In the X-ray module before saving under menu item "2. Image/Save under Another Patient"

In the light table under the "Reassign Image" menu item. The original data is then supplemented by the data of the person who carries out this action and the original patient.

Measurement of X-ray images

In order to estimate lengths and angles in X-ray images, the image must be calibrated with the aid of a reference image object. Despite calibration, this estimation does not indicate the accuracy of a measurement and must not be used as the measured result. The accuracy depends greatly on the projection distortion of the object on the image detector area. True-to-scale estimation of lengths and angles cannot be carried out in video images!

Panorama X-ray images are not suitable for measuring due to their projection technique.

Data backup

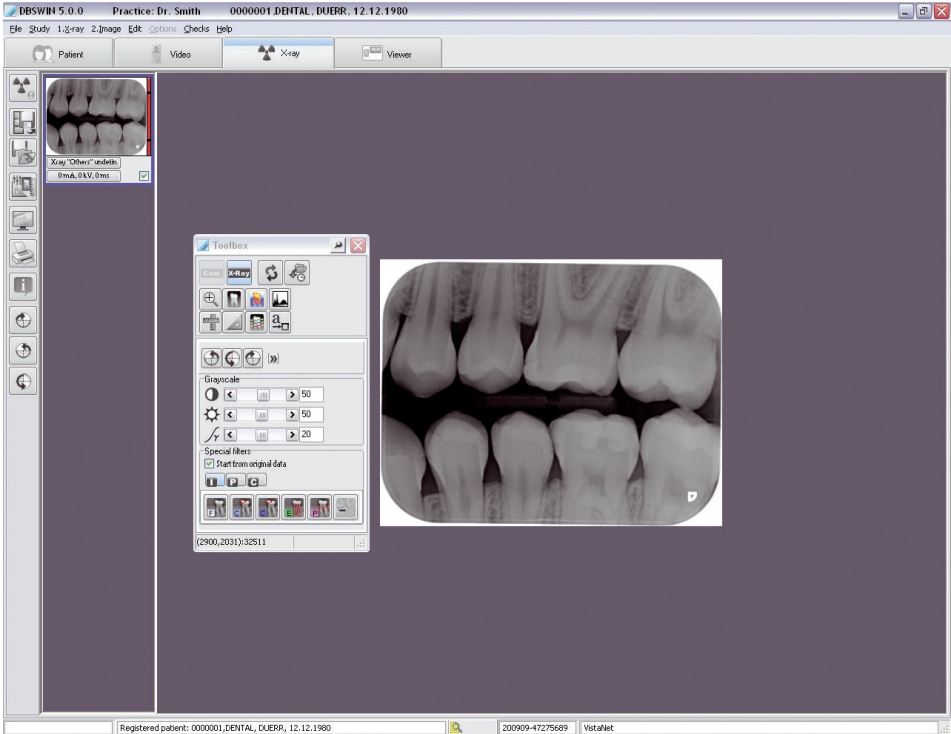
As a general rule, you should back up your data regularly. When using the X-ray module (e. g. with VistaRay, VistaScan) a regular backup of the DBSWIN database directory is essential! Please read the "Data Backup" section in the "Further Information" chapter.

Legal Regulations

Depending on the legal requirements for the dental office, a cyclical constancy test of the X-ray system being used is required in various countries. This includes the X-ray source, the image generator (sensor, image plate with scanner), and the image display (software, diagnostic monitor).

Further information: see Legal Regulations

View



EN
US

7.1 Functions – Single images using VistaScan and VistaRay

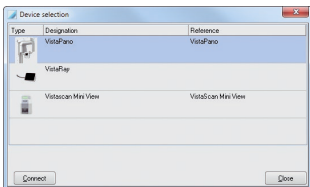
First the basic functions for the recording of single images are described below. The special functions for the recording of serial images are then described in the "Functions – Serial Image Recording" chapter.



Take X-ray image (X-ray menu)

The recording of an X-ray image or a series is initiated by clicking on the button "Record a New X-ray Image". If several units are activated, the selection window then appears and the desired unit must be selected. If only one system has been activated, this step is omitted!

Appliance selection



X-ray image configuration

Before an X-ray recording can be carried out, a dialog window appears where the recording parameter can be entered or selected.

Depending on which image types (Intra, OPG, Ceph) the X-ray imaging system can process, the corresponding functions can be accessed (e. g. only Intra image types and no Extra (OPG/Ceph) image types can be selected in VistaScan Perio and VistaRay).

The standard recording mode for the selected Intra or Extra X-ray image is displayed and can be changed (the standard mode can be defined in Configuration/Modules/VistaScan or VistaRay).

An image (single tooth, bitewing, OPG, etc.) can be selected either before or after actual imaging. The selected recording system (VistaRay or VistaScan) is displayed (red marking) in the lower left corner of the window.

Input an image: VistaScan

Image Type: Intra **OPG** **Ceph** **Other** **Series**

Image Selection:

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

Image Selection:

- ☐ Intra undefined
- ☐ Bitewing
- ☐ Bitewing-LM
- ☐ Bitewing-RM
- ☐ Bitewing-LP
- ☐ Bitewing-RP
- ☐ Occlu frontal
- ☐ Occlu left
- ☐ Occlu right
- ☐ Mouth base frontal
- ☐ Mouth base left
- ☐ Mouth base right
- ☐ Maxilla
- ☐ Mandibula
- ☐ Maxilla and Mandibula

X-ray tube: Phas 1

Record mode: INTRA high 20LP/mm (1000dpi)

Parameters:

Current [mA]: 0

Voltage [kV]: 0

Exposure time [ms]: 0

Dose area prod.[mGy/cm*2]: 0

Patient:

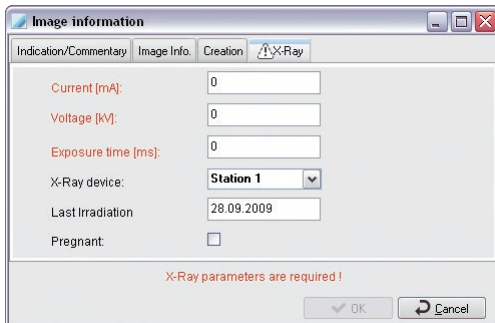
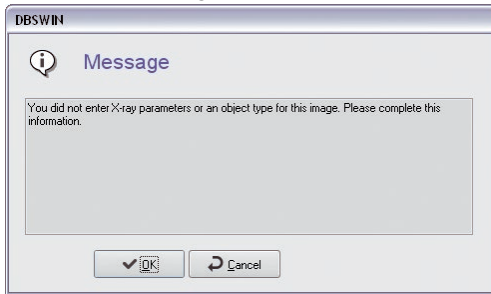
Last X-raying: 30.06.2008

Buttons: Input Abort

For keeping a complete X-ray report two additional patient-related values (last X-ray and, in the case of female patients, pregnancy) are displayed and may be modified. In the "Last X-ray" field, DBSWIN automatically shows the date of the last X-ray image taken of the patient in the office. You can update this value!

Compulsory entry of X-ray recording parameters

If the "X-ray Parameters are Mandatory" check box is marked in the "X-ray Images" section under "Configuration/Office", then the X-ray dose parameters (mA, kV, ms) have to be entered as a minimum requirement. If one or more these parameter fields have not been filled then you will be asked to enter data again before saving. Once the image has been saved, X-ray parameters can only be modified at a later point in time if the check box "Editing X-ray Parameters is Always Allowed" in the "X-ray Images" section under "Configuration/Office" is checked!



Entry of X-ray dose parameters

DBSWIN suggests the dose parameter if a recording saved with the X-ray unit currently selected is available for the selected object (e. g. tooth). If this is the case, the existing values are used as the parameters. Otherwise, DBSWIN uses the standard settings of the selected X-ray unit defined under "Configuration/Modules/X-Ray". If you use different recording values for the X-ray unit, these are to be entered manually.

The default setting of common X-ray parameters can be selected for each X-ray unit and each object type (e. g. individual tooth for intraoral appliances) under "Configuration/Modules/X-ray". Please note that these standard settings can only be modified by users with the appropriate access rights (administrator)!

Read an image

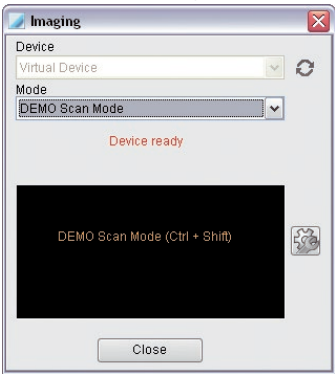
Once you have entered the X-ray parameters, click the "Read" button and the following dialog is displayed.



VistaRay recording window

VistaScan recording window

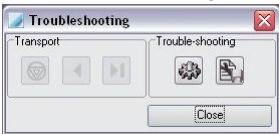
VistaScan goes into image standby mode (the LEDs show green) when the "Start Scan" button is activated. As soon as the image plate is read by the VistaScan, the imaging window displays the current line information and the VistaScan sequence. Providing this window is not closed, further image plates can be fed into the system.



Remedying problems

If problems (e. g. image plate is not fully transported out) occur during, before or after the scanning, the scan process can then be ended and a report file created by means of the "Error Recovery" button (wrench symbol).

You can instruct the unit to run forwards or backwards with the buttons in the "Transport" area. In external network appliances, e.g. in the VistaScan Mini, you can also view and save a report file in the "Troubleshooting" area.





Automatically repair problems

DBSWIN treats the problems automatically with this function.



Save report

You can save the contents of the window currently displayed by clicking the "Save Scanner Report as" button (diskette symbol). The standard "Save as..." Windows menu appears where you can select the storage location and the file name. Three different files can be opened which must then be given different names on saving.

"Too much stray light" message

When carrying out intraoral imaging all the entry slots of VistaScan must be closed using the covers provided! (see Operating Instructions)

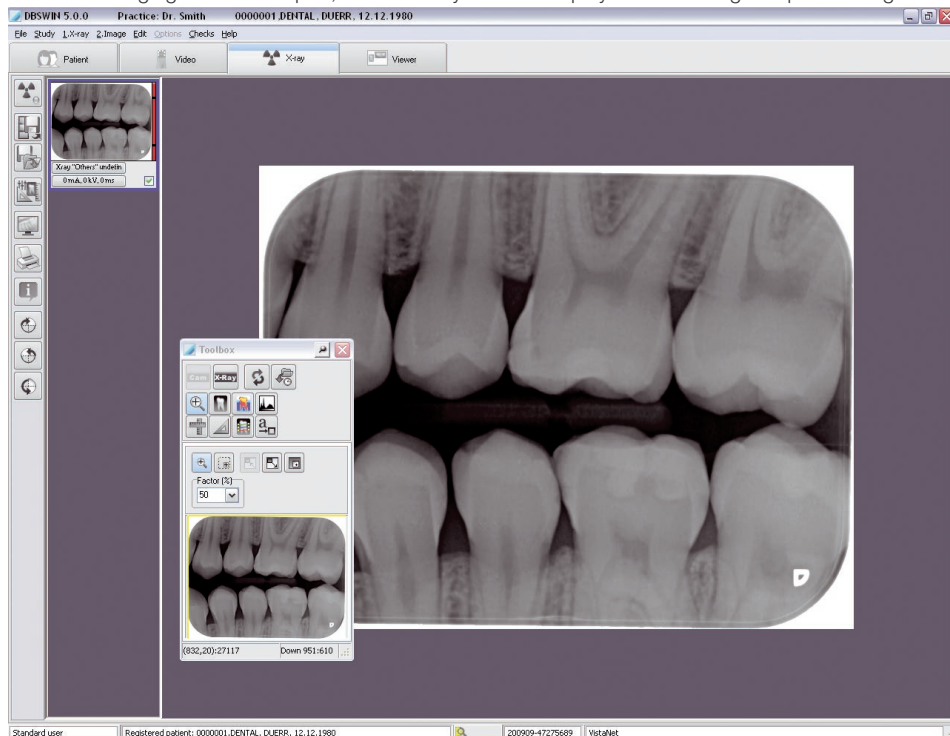
Check operation and set-up of the unit by means of the Installation and Operating Instructions.

Check lighting conditions (≤ 1000 Lux) at the input area of the scanner and reduce light in the close-up range if necessary.

Message "Exposure from the wrong side"

If this message appears it means that the image plate may have been exposed from the wrong side resulting in a mirror image. Check the orientation and image quality before making a diagnosis. The image can be corrected by mirroring it in the software.

When the imaging window is open, all new X-rays will be displayed in the image strip on the right.



The last image recorded (highlighted in blue in the image strip) will be displayed large in the left hand window and can be analyzed using the image-editing functions. Selecting (click) another image from the strip brings this to the active window. The images are placed into image strips and a colored bar on the right shows the image level of the images.

This value serves only as a guideline for the optimal setting of the dose parameters (only possible if there is no extreme overexposure or underexposure). A good setting is indicated by a green bar and a poor setting is indicated by a red bar. There is both a lower and an upper critical limit (marks within the bar) after which the bar color changes to red.

Procedure in the event of a red bar:

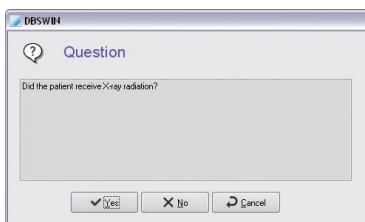
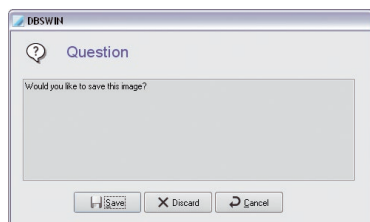
Bar red and low --> Increase X-ray dose or gain of the recording system

Bar red and high --> Reduce X-ray dose or gain of the recording system



Save images (X-ray menu)

If you click on this button, all images that are selected and assigned to an object type are stored in the database. Before saving images for the patient currently selected, you should make sure that the correct object type (tooth number or recording type) has been selected. If you want to discard an image, you must first remove the marking and answer the questions of the dialogs displayed below twice with "Discard" and "No".



If you respond to the prompt of whether the patient has received X-ray radiation with "Yes", the X-ray images are stored without exception and marked as hidden!



Save and open on the light table (X-ray menu)

If you click on this button, all images that are selected and assigned to an object type are stored and transferred to the light table for further processing. There they appear on the image clipboard of the image selection box and can be put on the light table using Drag&Drop. Before saving images for the patient currently selected, you should make sure that the correct object type (tooth number or recording type) has been selected.



Image processing (Image menu)

You can process the active image by activating the processing box. To do this, click the "Image Processing" button, double click in the image area, or single click with the right mouse button within the image to open the context menu and select "Image Processing". Please refer to the "Image Processing" chapter in the manual or the online help for a detailed description of these functions.



Full screen

Click on the "Full Screen Display" button to display the image in full screen mode. Press the ESC key or open the context menu with the right mouse button and click on full screen to exit the full screen mode.



Print (Print menu)

Click on the "Print" button to prepare the image for printing. Refer to the "Print" chapter in the manual or the online help for further information.



Image information (Image menu)

To enter, edit or display information on the active image, click the "Image Information on Active Image" button. This displays the image information box for the current image. Text information concerning the image can be added to the Comment page. The texts of the shortcut keys can be copied to the text area with the right mouse key. The first comment can only be entered once and cannot be changed after saving.

Image type, image size, object type (e. g. tooth number) and object area (e. g. tooth area) are displayed on the Image info page. You can click the "Select" button in the "Type" area in the center of the screen to select the tooth number of the main object, for example. Confirm your selection with "OK". Entering the object range now displays the previously selected main object with a blue background and you can continue to mark teeth that are within the area of the image. All selected objects are displayed as text in the "Area" field; related objects within a quadrant are displayed with a hyphen between the first and last object (e.g. 12, 13, 14 -> 12-14).

The production details to the image are displayed on the Details page. In addition, the user responsible for the image is also listed. The X-ray parameters page displays the values entered so far; these values may be edited.



Rotate 90° clockwise

The active image is rotated 90° clockwise.



Rotate 90° counter-clockwise

The active image is rotated 90° counter-clockwise.



Rotate 180°

The active image is rotated 180°.

Image activation (X-ray menu)

Click on an image in the image strip to display it in the main window. You can activate the previous image by selecting the "Activate Previous Image" item in the "X-ray" menu.

Mark image to be stored

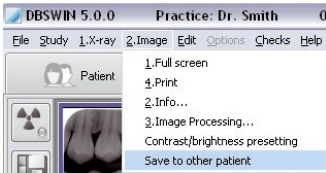
There is a check box below the bottom border of the images that are displayed in the image strip. Clicking on this field allows the image to be selected or deselected for storing purposes. Only images that are checked are saved or transferred to the light table.

Assigning images

Certain X-ray parameters and further image information can be assigned to images in the image strip, such as the X-ray format (Intra, Extra), the type of object (e.g. tooth number or type of exposure). Undefined object types should be assigned to "X-ray Undefined"! In order to assign the object type either click on the symbol at the lower border of the relevant image within the image strip and then select the chosen type from the list provided, or select the Info symbol. X-ray parameters and further image information can be assigned either by clicking on the symbol at the lower border of the relevant image within the image strip, or by selecting the Info symbol.

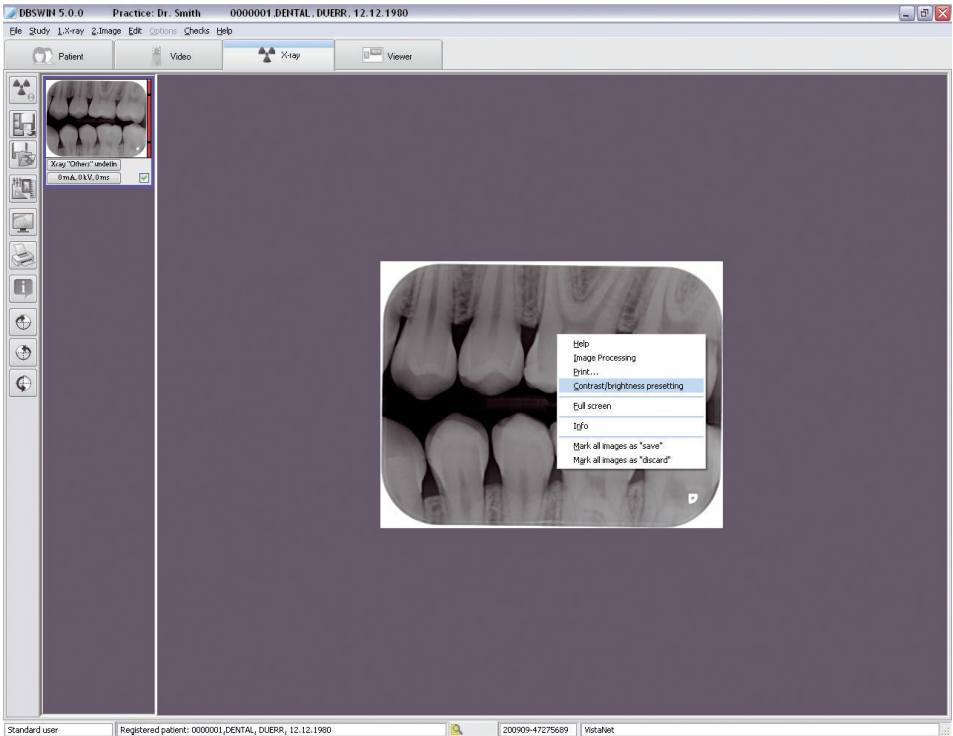
Assign image to a different patient

If an image is not to be assigned to the active patient, the active image can then be assigned to a patient who can be selected from the patient list under "Save 2nd Image/Under Other Patient" in the menu bar.

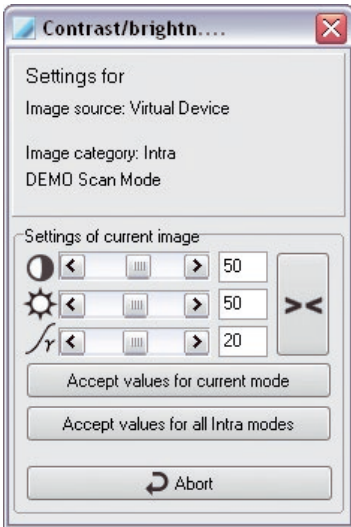


Specify brightness and contrast values for New recordings with VistaScan

The image processing box must be closed! After a right mouse click inside the image area, it is possible to activate the appropriate window using the "Brightness/Contrast Preset" menu option in the context menu.



The changes made to the brightness and contrast as well as the gamma values are shown directly in the current image and can be saved to serve as set values for new images under the same VistaScan mode or for all modes of the same type (i.e. Intra or Extra).



"Settings of Current Image": Set desired brightness, contrast and gamma values.



: Reset brightness, contrast and gamma values.

"Apply Values for Current Mode": Save current setting values for the VistaScan mode currently selected.

"Apply Values for All Intra Modes": Save current setting values for all Intra modes.

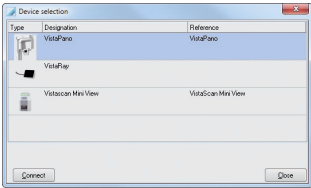
7.2 Functions – Single images using VistaPano



Take X-ray image (X-ray menu)

The recording of an X-ray image or a series is initiated by clicking on the button "Record a New X-ray Image". If several units are activated, the selection window then appears and the desired unit must be selected. If only one system has been activated, this step is omitted!

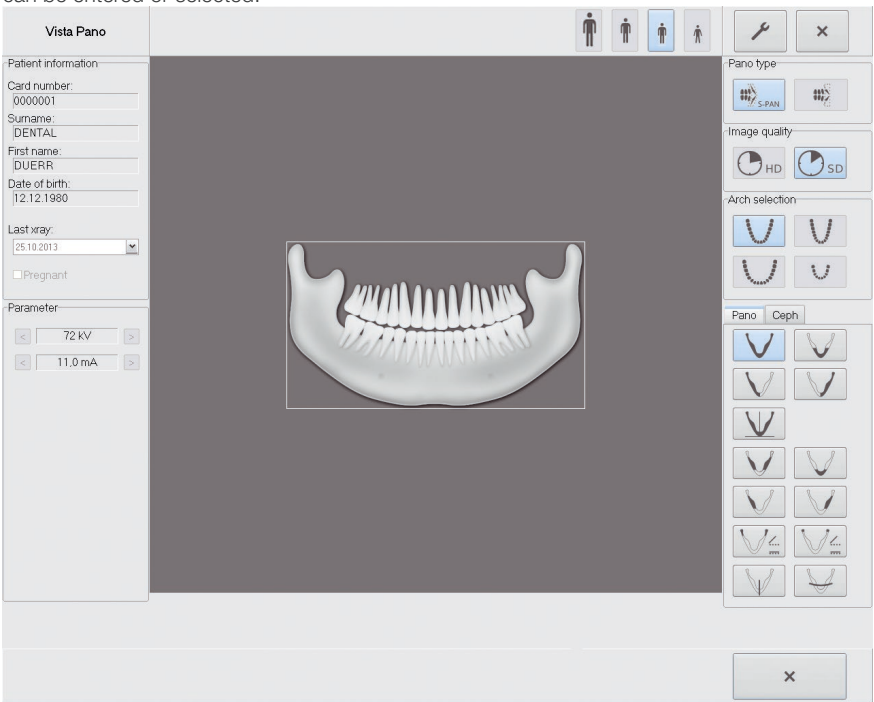
Appliance selection



The imaging programs can vary according to the selected unit. Not every imaging type is possible with every unit.

X-ray image configuration

Before an X-ray recording can be carried out, a dialog window appears where the recording parameter can be entered or selected.



The parameters patient type, mandible and image program will be pre-selected according to actual patient.

- If the pre-selected parameters are changed then this must be confirmed with .
If the pre-selected parameters are to be used, then work can be continued directly using the unit.

Parameter overview

Patient type

Selection of patient type will depend on the patient's size or their head circumference. The pre-selected patient type may require changing as necessary.

Depending on the patient type the X-ray parameters will be set up (see Appendix).

When a child is set up, then the X-ray parameters will be altered:

- reduced dose
- shorter process time
- exposed mandibular arch height is shorter



tall, well-built patient



adult male



adult female



child (< 13 years old)

Panotype

The S-Pan-Technology works by selecting from several flexible layers the area best in focus and presenting this in an image.

S- Pan is pre-selected.



S-PAN



PAN

Image quality

HD: Extended exposure time produces images with higher contrast.

SD: This setting is used for standard images.



HD - Panorama images



SD - Panorama images

Mandibular arch

The selected jaw form influences the rotation process of the C-angle connector piece during imaging. In this way even for especially narrow or wide jaws an image with the ideal layer orientation can be produced.



DBSWIN automatically switches between children's teeth/milk teeth and a normal dental arch depending on the age of the patient. The age can be adjusted in the configuration of VistaPano.



normal mandibular arch



narrow jaw



wide jaw



child / milk teeth

Imaging program



Standard

The standard panorama image displays the complete dental area with ascending dental branches and jaw joints.



Front

The image displays a reduced dental area without ascending dental branches.



Right

The image displays only the right dental area.



Left

The image displays only the left dental area.



Orthogonal

The image displays the complete dental area and is created 90 degrees to the mandibular arch. In this way overlapping crowns are avoided.



Bitewing

The image displays the posterior quadrant limited to the size of the bitewing.



Bitewing front

The image displays the anterior quadrant limited to the size of the bitewing.



Bitewing right

The image displays the right posterior quadrant limited to the size of the bitewing.



Bitewing left

The image displays the left posterior quadrant limited to the size of the bitewing.



Jaw joint Lat

The image displays the jaw joint laterally with mouth closed and open as 4-fold display forming one image.



Jaw joint PA

The image displays the posterior-anterior jaw joint with mouth closed and open as 4-fold display forming one image.



Sinus Lat

The image displays the sinuses laterally.



Sinus PA

The image displays the posterior-anterior sinuses.

Child imaging program

For panorama images of children the radiation field is reduced using an additional shield. The radiation dose is considerably reduced for this image type.



Standard

The standard panorama image displays the complete dental area with ascending dental branches and jaw joints.



Front

The image displays a reduced dental area without ascending dental branches.



Right

The image displays only the right dental area.



Left

The image displays only the left dental area.

Ceph imaging program



Lateral

The image displays the forehead of the patient.

PA

The image displays the posterior-anterior skull. It is suitable for semi-axial skull images and provides a cranial eccentric overview.

SMV

The image displays the skull in a submentovertex projection. For example, it is suitable for the imaging of the arch of the jaw and the jaw joints.

Waters View

The image is suitable, for example, for the imaging of the joint head in the temporomandibular joint.

Carpus

The image displays the carpus of the patient. It is suitable for drawing conclusions on the growth stage of the body/jaw.

7.3 Functions – Serial images using VistaScan and VistaRay



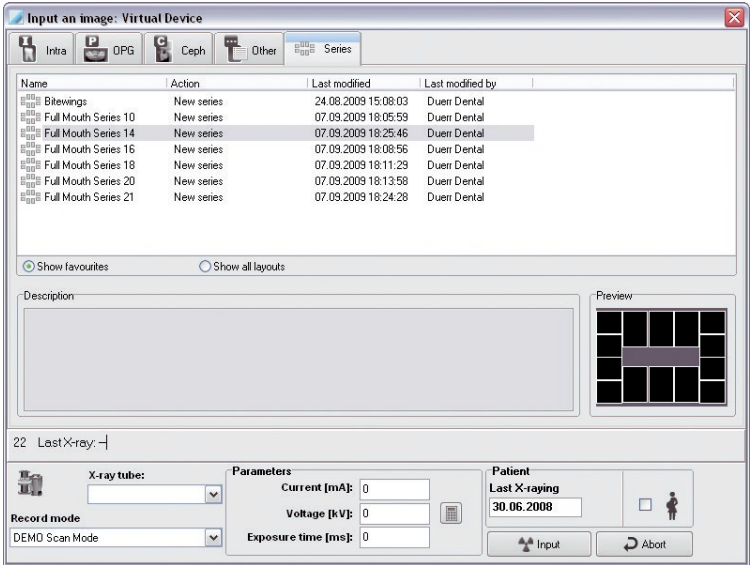
Take X-ray image (X-ray menu)

EN
US

The recording of an X-ray image or a series is initiated by clicking on the "Record a new X-ray image" button. If both VistaRay and VistaScan are activated, the selection window then appears and the desired unit must be selected. If only one system is activated, this step is then skipped (see "Functions – Single Image Recording" chapter).

Select recording scheme

Select the recording scheme for the serial image recording in the "Record Image" dialog. You can also select and continue a serial recording that is not yet complete.

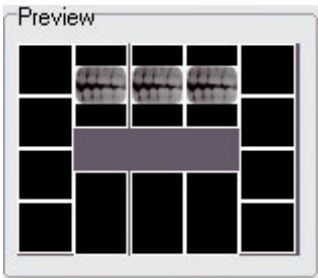


You can detect whether a series is to be newly created or continued from the symbol before the name and from the entry in the "Action" column.

Create new series

Continue series

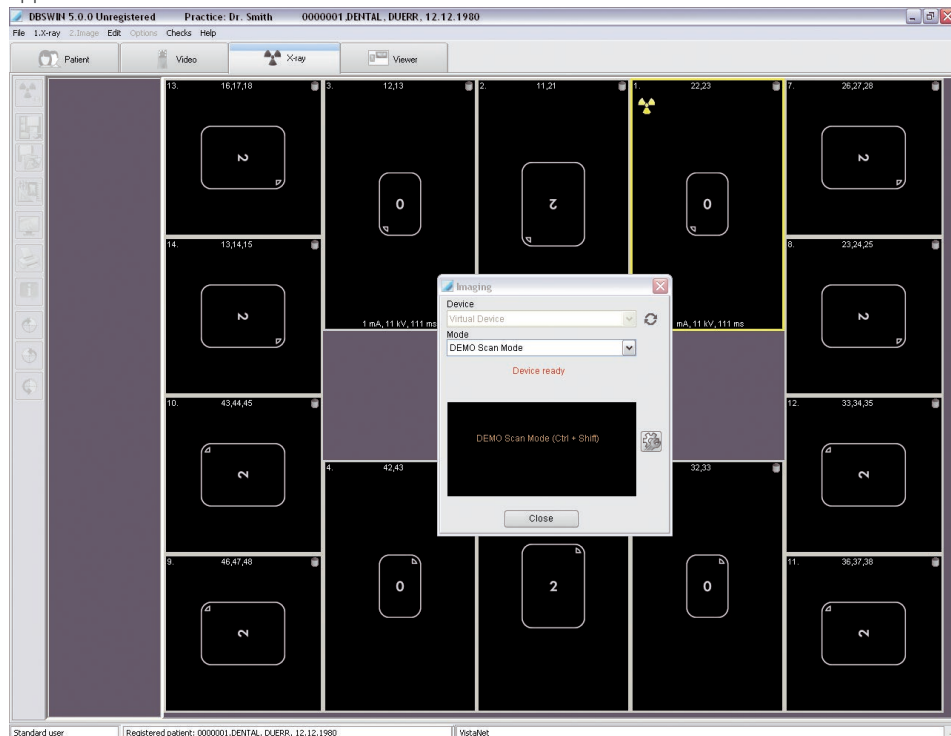
You can see the layout and other configuration data of the recording scheme in the lower area of the preview. For series that are not yet complete, you can see the images already created in the preview.





Reading in a series

The serial recording is started by clicking on the "Read" button. The layout of the recording scheme appears.



The frames are numbered in the sequence of the recordings to be created. The active frame into which the first/next image is read is framed in yellow.



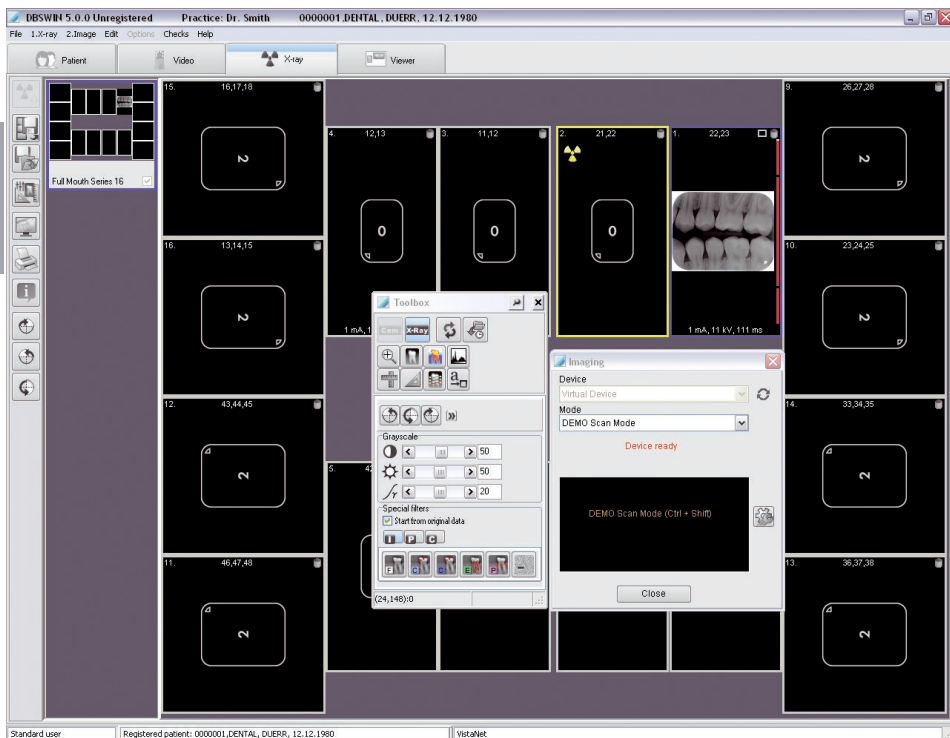
The next image is read into the frame with the yellow X-ray symbol. By clicking on another frame that does not yet contain an image you can change the frame for the next image. The yellow X-ray symbol then swaps to the frame that you have clicked.



Open the "Image Recording" dialog and continue recording the serial images.

If you close the "Image Recording" dialog, thereby canceling the serial image recording, the layout with the already generated images remains visible. You can open the "Image Recording" dialog again and continue recording the serial image by left clicking on the yellow X-ray symbol in the active image frame.

After the first recording appears, the image in the frame and the next frame is active.



Two symbols appear at the top right of each image frame:



Display image in maximum size (zoom to full screen)



Ignore recording step (if the frame is still empty); Carry out recording again (if an image is already in the frame, but the image has not yet been saved)

0 mA, 0 kV, 0 ms

The selected X-ray parameters appear below the image if they have been saved.

You can open the "Image Information" dialog and change the X-ray parameters by clicking on the line.

Editing images:

If you want to recreate the recording, you can edit or delete the image with the toolbox as usual by left clicking in a frame that already contains an image.

Save images in the scroll bar at the edge as single images, assign images from the scroll bar at the edge to a frame

You can also drag an image in a frame out of the frame into the image strip and thus save it as a single image. The image in the frame is retained. Vice versa, single images can also be dragged out of the image strip into a frame.



Exchanging or replacing images in frame

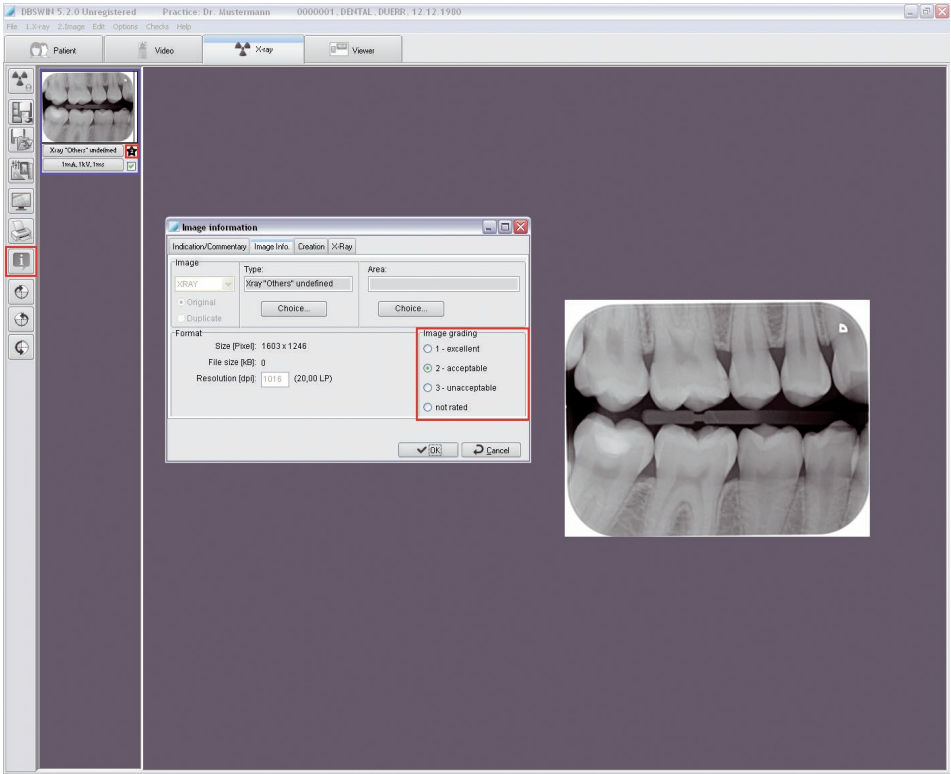
You can also manually drag an image from one frame into another frame and thus correctly arrange interchanged images again, for example. Click on an image, keep the mouse key clicked and drag the image in the desired frame. If the frame already contains an image, the image will be deleted and replaced by the new image.

7.4 Analysis of X-ray images

The quality of captured X-ray images can be analyzed in DBSWIN. A subsequent analysis can be used to determine whether poor image quality is due to the X-ray unit or human error. In some countries, this is required for quality management purposes.

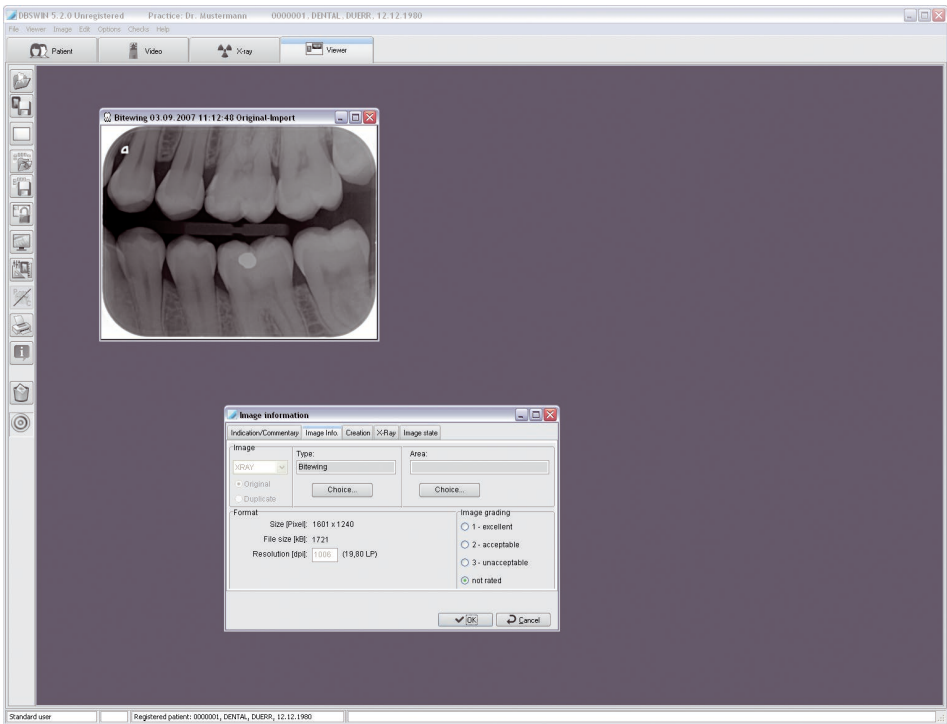
Analyzing X-ray images during the work process

When an X-ray image has been read in, you can use the small star  on the symbol bar or the "Image Information on Active Image" button  to analyze it. To do so, click the analysis star icon or the button. If the window is opened using the analysis star, you can enter an analysis under "Image Grading" in the opened window. If the window is opened using the button, you have to go to the "Image Info" tab first. Close the window by clicking "OK". The analysis is saved when you save the image.



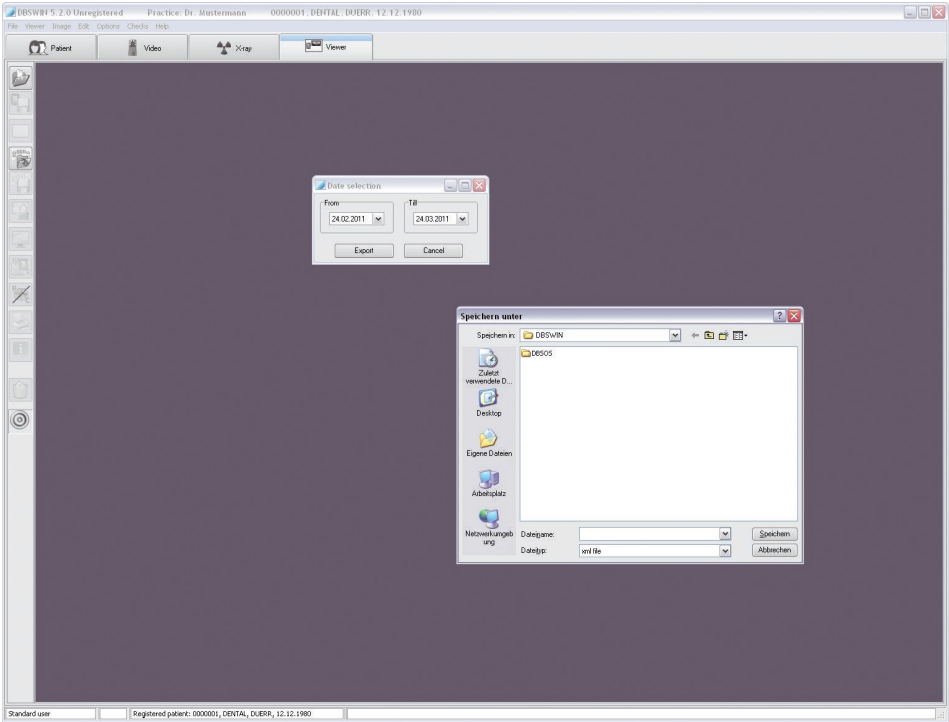
Analyzing X-ray images later on

X-ray images that have already been read in and saved can be analyzed later on using the light table. To do so, open the X-ray images to be analyzed on the light table. If you click "Image Information on Active Image", a window opens and you can enter an analysis of the X-ray image on the "Image info" tab. Close the window by clicking "OK". Then save the image by clicking "Save Active Image".



Evaluating analyses

You can click *Options > Export image grading* to compile and output image analyses as an XML file. A data selection window opens where you can specify a period (by default, it is set to the last month). When you click on "Export", a "Save as..." window opens and you can specify a path. DBSWIN saves the XML file here. The XML file can be opened and evaluated using Microsoft Excel, for example.

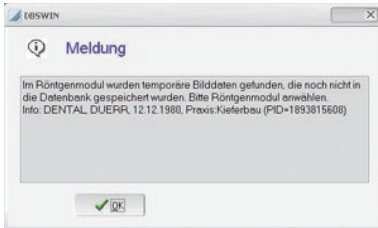


7.5 What to do after a PC crash

If the computer crashes while you are in the X-ray program module during or after an X-ray recording, the images recorded are not lost!

After a program crash, serial image recordings are saved as single image recordings. After restarting the program, all serial images appear as single images in the image strip and must be manually assigned to the recording scheme of the serial image recording again.

When you restart DBSWIN, a message appears, generally informing you that image data still exists in the X-ray imaging system or is saved temporarily on your hard disk but has not yet been saved permanently in the DBSWIN database.



After selection of the X-ray program section, a dialog is displayed, which indicates that another image or several images of a patient has/have not yet been saved in the database. This dialog is only displayed if the image(s) found belong to the office currently selected. The program will prompt you to select the correct patient so that the images can be loaded.

EN
US

Determining the time interval for printing

The X-ray report can be printed for a specific time interval. Enter the desired dates. Click the "Preview" button to display the X-ray report on the monitor. If the time period in the dialog is set to "Automatic"; DBSWIN suggests the last printout date as the "FROM" date and the system clock date as the "TO" date. This list can be sorted alphabetically by patient name or chronologically. Additionally, selection can take place according to one or more X-ray appliances where the X-ray station information has been stored during X-ray processing. X-ray treatment without this X-ray station information is always displayed.

Preview

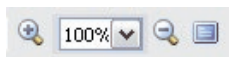
FROM 01.01.1998
TO 29.09.2009 14:37:31

X-ray report

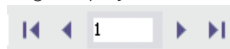
Dr. Smith

Date	Time	Object type	kV	mA	ms	Original	Last X-ray	X-ray taken by	X-ray tube:	Indication
Patient	DUERR DENTAL							Geboren am 12.12.1980 Karteinr. 0000001		
17.09.2003	17:52:02	13	70	8	200	X		Duerr Dental		
17.09.2003	17:54:25	Occlus frontalis	60	7	200	X		Duerr Dental		
17.09.2003	17:55:52	OP-ortho	0	0	0	X		Standard user		Oxymie 8LP/mm
17.09.2003	17:56:28	OP-ortho	73	10	13000	X		Duerr Dental		
14.01.2005	14:54:47	X-ray "Others" undefined	0	0	0	X		Duerr Dental		Oxymie 8LP/mm
14.01.2005	14:54:53	X-ray "Others" undefined	0	0	0	X		Duerr Dental		VistaScan 20 LP/mm Standard 31.01.2005 14:37:41: VistaScan
25.01.2005	11:55:38	Head-PA	68	12	40	X		Duerr Dental		
25.07.2005	15:37:53	Blewing-LM	70	8	80	X		Standard user		Oxymie 8LP/mm
28.06.2006	09:31:34	13	0	0	0	X		Standard user		Oxymie 8LP/mm
28.06.2006	09:36:07	14	0	0	0	X		Standard user		Oxymie 8LP/mm
11.12.2006	19:15:33	OP-ortho	0	0	0	X		Standard user		Oxymie 8LP/mm
14.12.2006	14:18:34	Blewing	0	0	0	X		Standard user		Oxymie 8LP/mm
10.01.2007	11:36:06	23	0	0	0	X		Standard user		Oxymie 8LP/mm
01.02.2007	15:49:49	Blewing	0	0	0	X		Standard user		Oxymie 8LP/mm
13.02.2007	18:35:36	12	0	0	0	X		Standard user		Oxymie 8LP/mm

Function overview of the buttons



Page display: Zoom in / Set to 100% or to a specific percentage value / Zoom out / Full screen



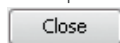
Page display: First page / Previous page / Select page / Next page / Last page



Printer: Open print menu



File: Open / Save



Preview: Close



Preview: Search text

8. Image processing

8.1 General

The Image Processing function allows the user to control and amend the image parameters. There is also the possibility to add elements to the original image. These are then stored with the image, but can later be removed if necessary.

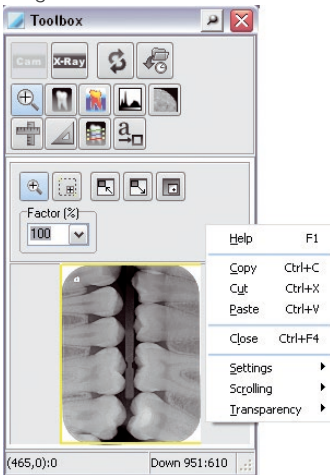
8.2 Toolbox

Image processing is carried out with the toolbox. The appearance of the toolbox for the image processing can be adapted.

Click on the "Process Active Image" button or on the "Image Processing" entry in the "Image" menu. The toolbox appears.

Context menu

A right hand mouse click on the toolbox causes a context menu to open.



Unfold

The toolbox can be folded up either completely or partly if it is not used.

Right hand mouse click on the toolbox.

Select "Unfold".

Three options can be selected here:

"Always Open": The toolbox is not folded up.

"Half Open": The additional functions are folded up.

"Fully Closed": All functions are folded up.

Visibility

The toolbox can be made transparent against the background with the "Transparency" option.

Right hand mouse click on the toolbox.

Select "Transparency".

Four levels can be selected here:

100%, 75%, 50%, 25%

Depending on the level selected, the toolbox is displayed more transparent or less transparent.

Note: The "Transparency" function only works in conjunction with the "Unfold" function. If the "Always Open" option is selected in "Unfold", the "Transparency" function is automatically deactivated.

8.3 Overview of functions



: Global functions

: Function groups

Function area with image processing functions

In the upper area of the image-editing box, clicking on the appropriate symbol allows you to select either one of the global functions or one of the function groups.

The individual editing functions according to the selected function or function group are shown in the lower area of the image-editing box.



Return to previous image edit function

You can undo the last image processing function by clicking on the button "Undo/Redo Last Filter, Rotate, and Mirror Operation" or restore it by clicking it again.



Load image status

Click the "Load Image Status" button ("Main Menu/Image" or "Image Context Menu") to select the "Load Image Status" entry. One of the image statuses currently available can be selected from the list and can be displayed on the screen.

An image can have one of the following four statuses:

Last saved: Image that was saved last

Diagnosis status: Image in the image information box when saving the first comment (diagnosis, etc.)
Initial saving: Image in the X-ray module when saving after capturing the image. Where no image editing has been carried out (e.g. no rotation, brightness or contrast enhancement, etc.) on the original image, this will be identical to the original image.

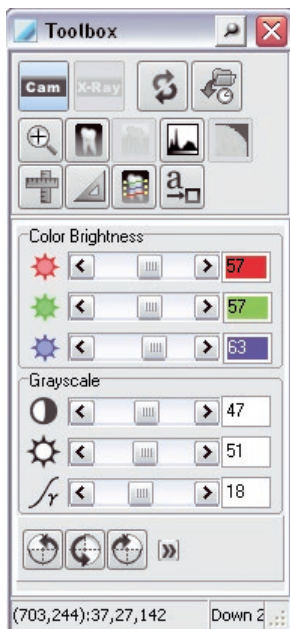
Original data: Image after capturing the image



Video image - main functions for VistaCam

All the principal functions for image editing of video images are displayed in the functional area. Further functions can be selected where necessary.

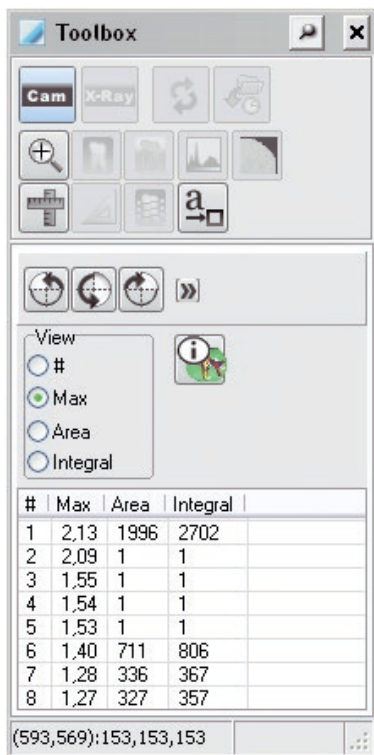
The settings for individual images can be altered using the sliding bars (red, green, blue, brightness, contrast, gamma) as required.





Video image main functions for VistaProof, VistaCam iX with exchangeable proof head and VistaCam iX HD with exchangeable proof head

All the principal functions for image editing of proof images are displayed in the functional area.



All functions that are not required are deactivated.

If the "#" check box is activated, the individual pockets of caries are numbered in the image.

After activating the "Max" check box, the maximum values of the caries are displayed.

If the "Area" check box is activated, the size of the individual pockets of caries is shown in pixels in the image.

If the "Integral" check box is activated, a value calculated from the values of "Max" and "Area" is displayed.

The proof color scheme can be opened with the button



The meaning of the color scheme and the numerical values is explained here.

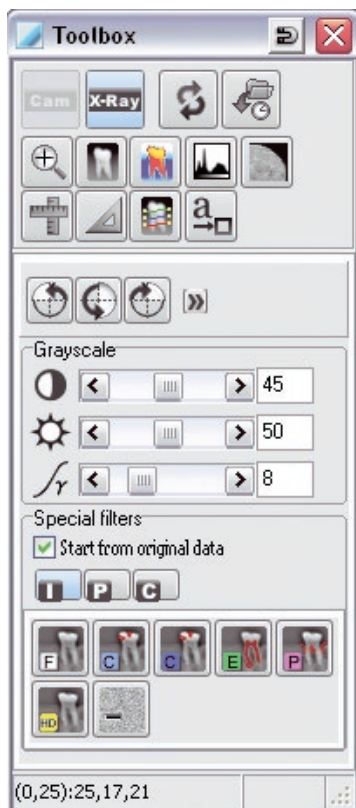


The color scheme and the numerical values give a reliable indication of carious lesions.




X-ray image – main functions

All the principal functions for image editing of X-ray images are displayed in the functional area. Further functions can be selected where necessary.



The settings for individual images can be altered using the sliding bars (brightness, contrast, gamma) as required. Alternatively, you can intuitively change the brightness (horizontal movement of the mouse) and contrast (vertical movement of the mouse) directly in the active image (mouse

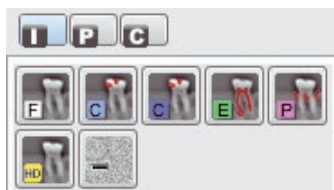
symbol in the image area = ) while keeping the left mouse key pressed.

Diagnostic support

The filter set assigned to the X-ray image type (INTRA, PANO, CEPH) is displayed by default. For an undefined X-ray image or by clicking the "All Filters" button (double arrow) the other filters become selectable. The diagnostic support is performed with original data as long as the "Use Original date" check box is activated. In all other cases the filter is selected matching the current status. The color represents the application case (caries, periodontal, etc.) and the color intensity is a measure of the filter strength if there are several filters for an application case (e. g. Caries1, Caries2).

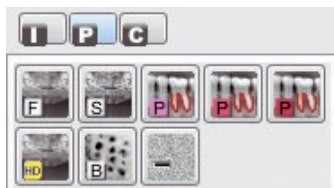
Structures or objects within the image, which may be of interest for the current diagnosis, are highlighted more strongly (more contrast) without affecting the quality of the image. These interesting structures are seen at a glance within the image displayed. For example, the periodontal gap contrast is displayed more intensely by the periodontal filter.

INTRA filter set



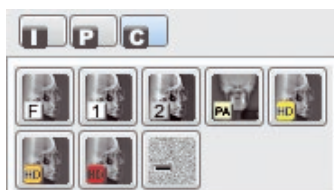
Intra (precision); Caries; Endo; Perio; Reduce Noise; HD

PANO filter set



Standard; Perio; Osteo; Reduce Noise; HD

CEPH filter set



Ceph; posterior; anterior; Reduce Noise; HD



Image rotating & mirroring

In addition, the mirroring functions are hidden and shown with the button .

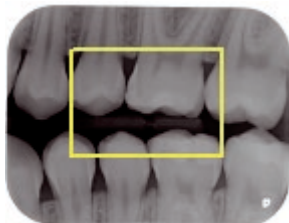


Depending on which of the symbols has been selected, starting with the current image position, the image will be rotated 90°, 180° or 270°.

You can undo the last rotation or mirroring again by clicking on the button "Undo/Redo Last Filter, Rotate, and Mirror Operation" (main functions).



Zoom tools



The zoom tools allow you to view the complete image or, alternatively, a section of the image either enlarged or reduced in size.

1. To display the image with a magnification factor, please click the magnifying glass. Clicking the left mouse key within the image enlarges it; a right hand mouse click reduces it. Alternatively, it is possible to enter a percentage figure in the list field or to select a factor. Confirm selection with Enter.
2. The "Draw Rectangle" function lets you draw a square on the image, which is displayed as a yellow frame on the preview image. You can move the yellow frame in the preview image with the mouse. This selected part is displayed magnified in the image frame.
3. The "Set Image Window Size to the Image Size" function is used to adjust the frame on the magnified image.
4. The "Adjust Image to Window Size" function is used to adapt the image to the frame size.
5. The "Magnifying Glass (Local Zoom Window)" function displays a magnifying glass window on your image, which you can move and magnify as required. The zoom factor is selected using the sliding scale at the side of the screen.
6. You can enter a fixed magnification value in the "Factor" area.



If the toolbox is closed, the magnifying glass can be opened via the context menu with a right hand mouse click. The magnifying glass can also be activated with CTRL+right hand mouse click.



Filter functions



The filter functions can be selected by clicking the relevant active filter function symbol. Filter operations can be undone by clicking on the "Undo/Redo Last Filter, Rotation, and Mirror operation" (main functions) button. To get back to the original image, please click the "Load Image Status" button in the upper selection bar.

The original image can be restored after saving by clicking the "Load Image Status" button.

Drawing levels

The image processing box supports four drawing layers whose graphic elements can be made visible or invisible individually ("On" check box) or all together ("All" check box):



Angle measurements



Length measurements of lines and polygons



Density along a line or polygon



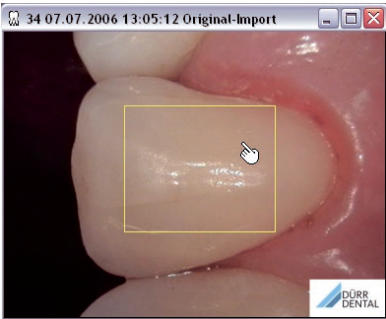
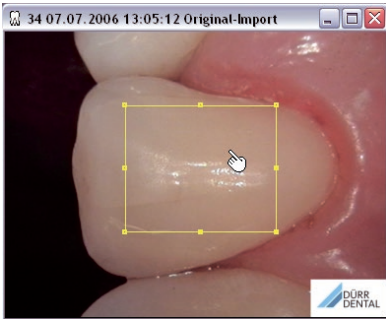
Text, line and closed line elements

Create graphic elements

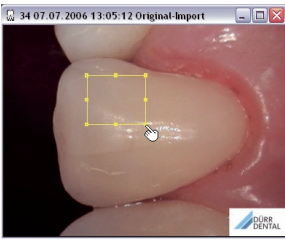
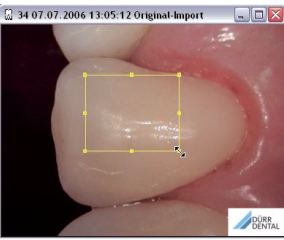
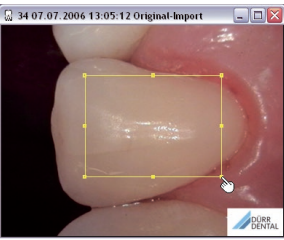
In order to create a new graphic element, select the elements required and click the appropriate symbol. Plot the starting position of the relevant element by clicking the left mouse key on the required portion of the image. You can now determine the size and layout of the element by moving the mouse. The element is fixed in place with a simple left mouse click.

After any creation the last used graphic element is always the active one. This is displayed by a dotted line surrounding the element and a hand as cursor. You can now change the parameters of the elements, for example color, size, layout and background color.

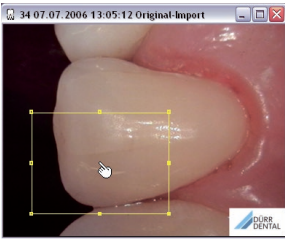
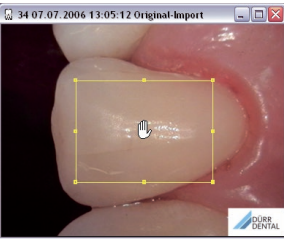
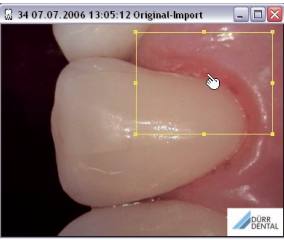
Activate graphic elements

<p>1. Left click on element with link select mouse cursor (finger symbol). Holding down the shift key allows other graphic elements to be activated.</p>	<p>2. Marking frame is visible with handles of the active element.</p>
	

Alter graphic element size

<p>1. Set + left click link select mouse cursor (finger symbol) on a handle of the active element.</p>	<p>2. Double arrow mouse cursor appears. Move the mouse to alter the size of the element + left click to finish.</p>	<p>3. Link select mouse cursor (finger symbol) appears again.</p>
		

Move graphic element

<p>1. Left click on element with link select mouse cursor (finger symbol).</p>	<p>2. Hand mouse cursor appears. Move the mouse to move the element + left click when finished.</p>	<p>3. Link select mouse cursor (finger symbol) appears again.</p>
		

Common functions at drawing level



"Delete...": Deletes active graphic elements

"Undo Delete": Undoes the delete of active graphic elements

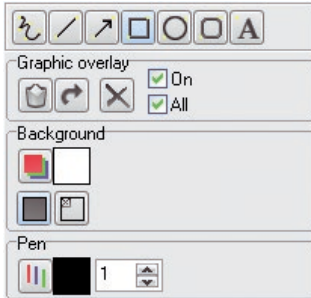
"Delete Graphic": Deletes all graphic elements

"On" check box: Make current drawing level visible or invisible

"All" check box: Make all drawing levels visible or invisible



Text, line and closed line elements



: Create closed line element

"Background":



: Select background color

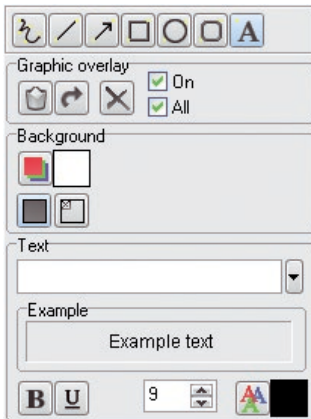


: Filled background



: Transparent background

"Pen": Pen color can be selected; Pen thickness: can be selected via list field



: Create text element

"Background":



: Select background color



: Filled background



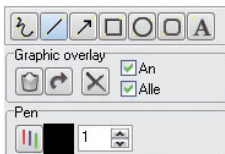
: Transparent background

"Text": Text can be input or changed

"Example": Text can be displayed



Adjustable text attributes: Bold, underlined, size, color



: Create freehand line elements



: Create line elements



Length measurements of lines and polygons

Line

Graphic overlay

☒ On ☒ All

Pen

1

Length

0 mm

Calibration length

0 mm

45.5 Pixel / mm



: Create simple line



: Create polygonal line

"Length": Specify actual length and unit of the line (pixel, cm, mm, inch)

Attention: A calibration must always be carried out for cm, mm or inch!

"Calibration length": Select or enter calibration length in the field.



: button: Apply calibration length

Attention: This is not possible for unit = pixel!

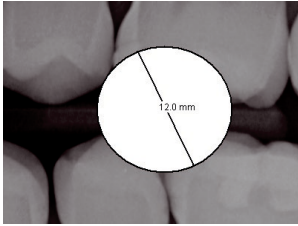
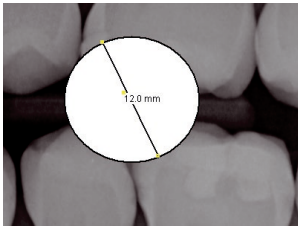
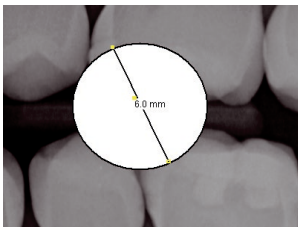


WARNING

Incorrect measurement result due to projection distortion or incorrect calibration

- › Perform calibration with a reference object.
- › Keep the projection distortion as low as possible during the X-ray image.
- › Do not use a panoramic image for the measurement.

Calibration using a steel sphere as reference object

 <div data-bbox="412 225 618 341"><p>Length 0 mm</p><p>Calibration length 0 mm</p><p>39.6 Pixel / mm</p></div>	Lay route in defined reference object, e. g. Select Unit = mm and enter route as 12 mm.
 <div data-bbox="412 467 618 584"><p>Length 12.0 mm</p><p>Calibration length 6.0 mm</p><p>45.5 Pixel / mm</p></div>	The calibration length must be selected! Set calibration length = 6.0 mm.
 <div data-bbox="412 710 618 826"><p>Length 6.0 mm</p><p>Calibration length 6.0 mm</p><p>91.1 Pixel / mm</p></div>	All future measurements will be based on this calibration. This calibration can be repeated at any time!



Angle measurements

Line

Graphic overlay

Pen

Angle

Angle

86.7

"Line": Create an angle

"Angle": Included angle is displayed. (in the example: "85°")

Create side 1

Left mouse click

Drag route from A to B in the direction of the apex with the mouse.

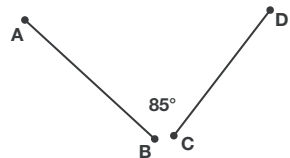
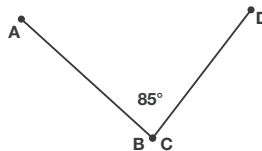
Complete side or line 1 at point B with left mouse click.

Create side 2

Left mouse click at point C

Drag the mouse from point C to point D.

Complete side or line 2 at point D with left mouse click.



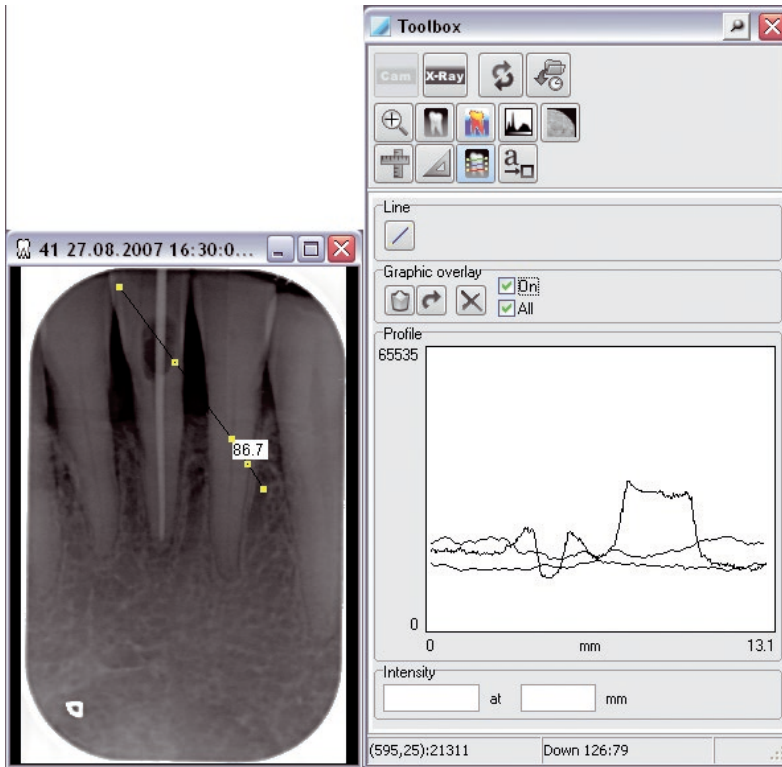


Density profile

The color density values all along a line are shown. The desired line is drawn in the image window by using the "Create new line for profile analysis" button (screenshot -> Line). The line color can be defined by clicking the "Pen color" button (screenshot -> Pen).

If you click inside the density window, a crosshair cursor will appear in the image and in the density window. By moving the crosshair cursor inside the density image, the density values along the line are shown in the fields below. Both crosshair cursors are synchronized so the position in the image can be determined precisely. The current value of the intensity (density) and the position are shown.

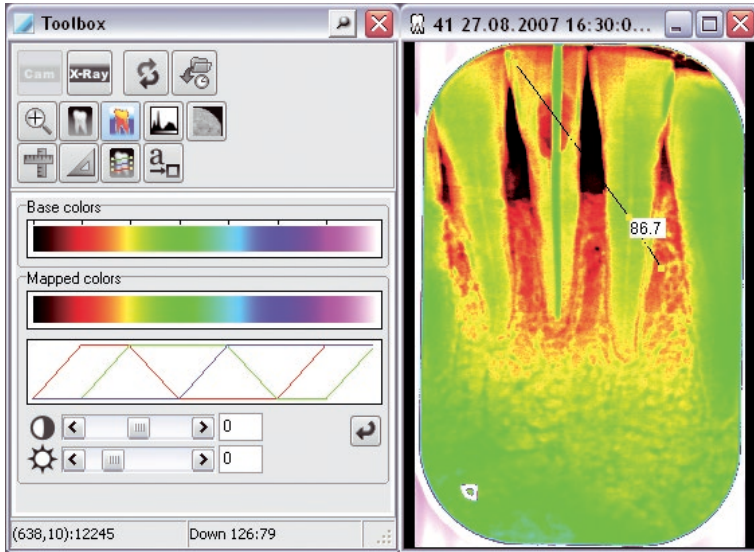
The current intensity value and the set scale values are displayed in two fields once more.





Pseudo colored image

You can set the pseudo color using the sliders. The pseudo colored image will not be stored! The basic colors can be selected individually to get your optimum of color transitions by clicking on the stripe base colors within the color you want to be replaced by another color. The Windows color selection box appears where you can select the new color. After confirming the selected color, the basic color range previously selected will be replaced with this color.



The basic colors and the slider are reset to the standard values with the "Set Standard" button .



Histogram (contrast enhancement)

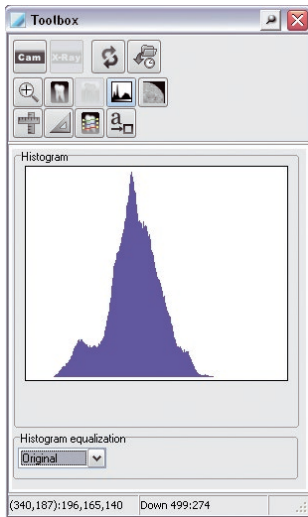
This function allows the distribution of the available intensity values to be spread to cover the complete area. Therefore small differences of gray levels are enhanced and will be visible to the human eye. The enhancement characteristic depends on the selected enhancement function (best fit, linear,...). The enhancement function can be selected from the list. The original state can be restored by selecting "Original" from the pull-down menu.



NOTICE

Optimally extended original images cannot be extended any further!

Color images

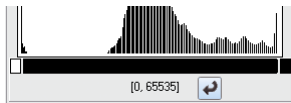


The Contrast extension range cannot be changed for colored images!

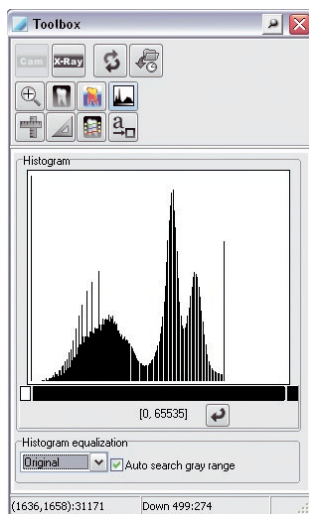
Greyscale images

The Contrast extension (histogram windowing) can be manually changed by defining the length of the black bar below the histogram by dragging while pressing the left mouse key. The grayscale in the area of the black bar is always displayed at 256 grayscale for display on the monitor.

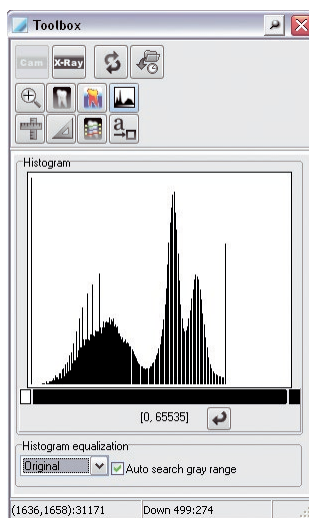
By clicking the "Set Standard" button  the entire grayscale range is shown (bar extends across the entire area).



8-bit grayscale images



16-Bit grayscale images




16-bit grayscale images from VistaScan: Low dose = 0; High dose = 65535

If the "Automatic Gray Range Search" check box has been checked, the window displaying the histogram of the VistaScan images will be carried out using the upper and lower limits, which have been predetermined for scan mode in the VistaConfig.



Edge masking

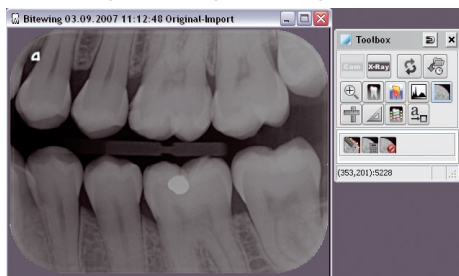
Edge masking adjusts the white edge of an X-ray image - which is created during the reading process - in line with the color of the light table. This aims to prevent dazzle in darkened rooms, thus making diagnostics of the X-ray image easier. Edge masking can be applied to all intra formats of VistaScan appliances.

Click the "Edge Masking"  button to trigger the automatic detection of the edge and image plate rotation; the color of the light table is laid over the X-ray image to mask the edge. The image information is not lost; it is simply covered.

X-ray image without edge masking



X-ray image with edge masking



: Modifies the contour of the edge mask



: Recalculates the edge mask

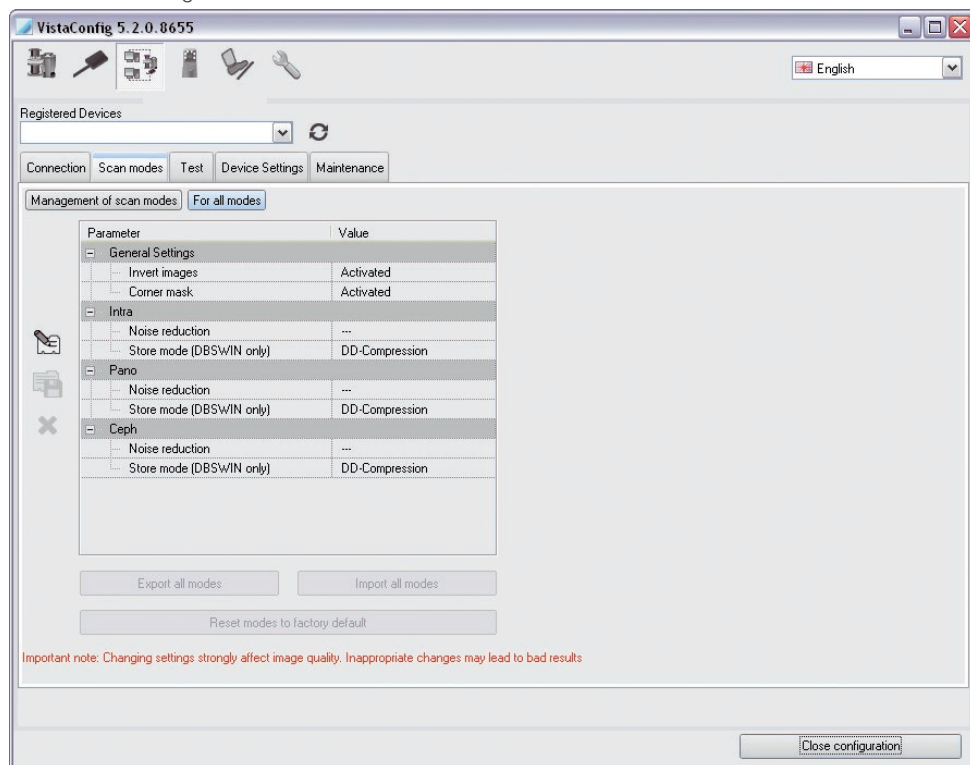


: Deactivates edge masking

If you want edge masking to be applied automatically when images are read in, you must activate the function in VistaConfig (the function is only applied to X-ray images that are read in after activation).

Proceed as follows:

- › Start VistaNetConfig by choosing *Start > All Programs > Duerr Dental > VistaConfig > VistaNetConfig*.
- › Press "F2".
- › Go to the "Scanning Modes" tab.
- › Choose "For All Modes".
- › Click "Edit Mode Configuration".
- › Under "Intra", activate edge masking.
- › Click "Save Mode Configuration".
- › Close VistaConfig.



9. Printing

9.1 Setting up a printer

i Before you begin with the printer set-up in DBSWIN, a printer should already be installed in the Windows operating system. Further information for setting up a printer under Windows can be found in the Windows online help or in the Windows manual.
The printer set-up under DBSWIN must be performed at each workstation!

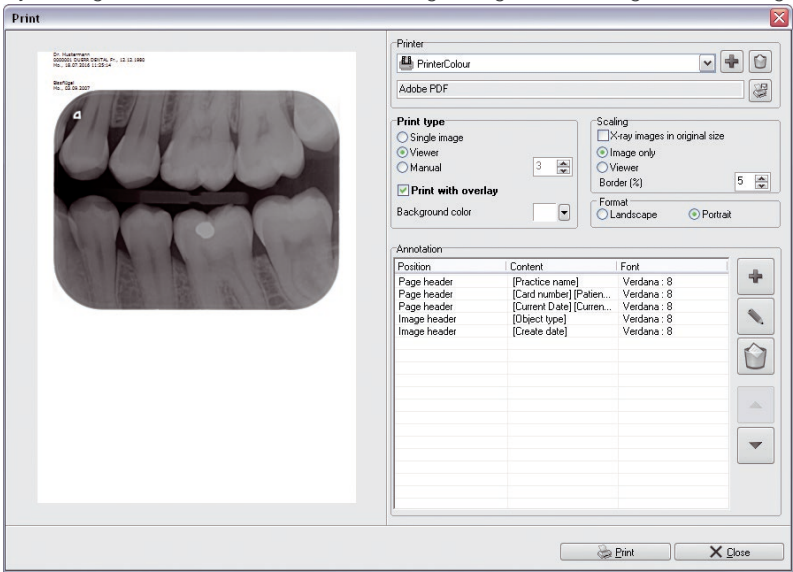


NOTICE
Depending on the printer model used, printer settings used (e. g. high-speed printing mode at reduced quality) and paper grade, the quality of the print-outs can be very different. These factors also influence the level of detail and number of grey scale steps. If printouts of X-ray images are to be used for diagnostic purposes, it is necessary to determine whether the print quality is sufficient by printing out a grey scale test image (C:\Program Files (x86)\Duerr\DBSWIN\Point4096x3072.tif).

The dialogs or menu items described below can be activated if there is at least one image on the light table.

Calling up the Print dialog window

You have the following options to activate the Print dialog:
Open it via the menu bar under "Image/ Print" or "Light Table/ Print".
By clicking on the Print button. The "Print Single Image" or "Print Light Table" dialog window appears.



A preview image is shown in the area on the left. In the area on the right, the pre-settings for printing can be changed. If pre-settings are changed, the changes made can be checked in the preview image.

"Printer" area

"Printer" list field: Select printer profile

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



: Create new printer profile

- › Click the "Create new printer profile" button.
- › Click into the text field and name the new profile.
- › Make all settings as described below.



: Select printer

Click on the printer button and select the desired printer.



: Delete printer profile

- › Click on the "Selected printer profile" button.
 - › "Click on "Delete".
- The selected printer profile is being deleted."

"Printing type" area

Single image:

The selected image is printed

Light table:

All images on the light table are printed.

Images per line:

When activating the "Images per line" button the images for printing are presented in rows and columns. This allows the number of images per line to be set.

Print with drawings:

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

Frame / Background color:

Choose any color for the image background.

"Scaling" area:

X-ray images in original size:

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

Image only:

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

Light table:

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

Border (%):

The setting, "Margin (%)", defines the margin around the printout. The header remains unchanged. The margin is implemented differently depending on the settings in "Printing type" and "Scaling". The images are fitted proportionally. The result can be checked in the preview image.

"Format" area

- › Select portrait or landscape format.

"Annotation" area

This selection field is used to add images when automatically printing information, e. g. patient name, birthday, patient ID, etc. Existing annotations can be processed or deleted.

- › Click the "New Annotation" button.
- › Select where the information should appear under "Position" in the "Annotation Line" dialog.
- › Select the font type, font style, and font size in the "Annotation Line" dialog under "Font".
- › Select the information that should be added in the pull-down menu of the "Contents" field. Multiple selections are possible.
- › Confirm with "OK".

Example: Add logo

- › Click on the "New Annotation" button.
- › Select the place at which the information should appear under "Position" in the "Annotation Line" dialog.
- › Enter the font type, font size, etc. using "Font" in the "Annotation Line" dialog.
- › "Do not make any entries in the "Content" editing field.
The text is overwritten by the name of the logo."
- › "In the pull-down menu of the "Content" field, select the "Logo > Import new logo" item.
If any logos were imported in the past, these logos are shown in the list for selection."



If the logo can no longer be displayed, for example because it was deleted from the hard disk, an error text is displayed. The error text has the same formatting as entered in "Font".

- › "Select the required logo.
Possible file formats: BMP, JPG, PNG"
- › "Click on "OK" to confirm.
The imported logo is shown in the preview image."



The size of the logo cannot be adapted by means of the pre-settings. The size of the logo depends on the resolution and the size of the imported image.

If the logo is to be larger or smaller, the imported image must be changed accordingly and then re-imported.

10. Acceptance and consistency test with DBSWIN

10.1 General

With DBSWIN it is possible to perform acceptance and consistency tests on X-ray systems and image reproduction systems.

The following DIN standards are applied primarily here:

- 6868-5
- 6868-151
- 6868-157

The following guidelines and directives are also applied:

- German X-ray Directive (Röntgenverordnung, RÖV)
- Guidelines for Expert Qualifications (Sachverständigen-Richtlinie, SV-RL)
- Quality Assurance Guidelines (Qualitätssicherung-Richtlinie, QS-RL)
- Specialist Knowledge Guidelines (Fachkunde-Richtlinie, FK-RL)

Acceptance test for the image reproduction system (IRS) in accordance with DIN 6868-157

The main goals of the acceptance test are:

- Ensuring that the required image quality is achieved with the lowest possible radiation exposure
- Defining the operator and device data
- Determining and assessing the light intensity and illuminance of the image reproduction device and its surroundings
- Visual assessment via test images
- Definition of reference values for the constancy tests

A complete acceptance test must be carried out in the following cases (among others):

- Before starting up an X-ray system for the first time
- Before moving an X-ray unit to a different location
- If changing operator (only if AAS required)

Acceptance test for the X-ray system in accordance with DIN 6868-151

The acceptance test for the X-ray system must be performed by a certified service technician with proven expertise and specialist knowledge.

The main goals of the acceptance test are:

- Ensuring that the required image quality is achieved with the lowest possible radiation exposure
- Defining the operator and device data
- Definition of reference values for the constancy tests
- Quality assurance for the system

A complete acceptance test must be carried out in the following cases (among others):

- Before starting up an X-ray system for the first time
- Before moving an X-ray unit to a different location
- If changing operator (only if AAS required)



The acceptance test should be carried out by the manufacturer or the supplier

Partial acceptance check

The scope of a partial acceptance test is defined by the scope and context of changes made to the system. Depending on the nature of the changes, a constancy test or overlapping measurement to validate the relevant criteria will also be required. Details about this can be found in the Guidelines for Expert Qualifications (Sachverständigen-Richtlinie, SV-RL) and the Quality Assurance Guidelines (Qualitätssicherung-Richtlinie, QS-RL).

Constancy test on the image reproduction system (IRS) in accordance with DIN 6868-157

The constancy test on the image reproduction system (IRS) comprises two different test procedures, which are normally performed every working day and on a yearly basis.

In the daily test, a test image is visually inspected on the image reproduction device. The yearly test comprises a measurement of the light intensity and illuminance of the image reproduction device and its surroundings (based on the requirements of the acceptance test).

Constancy check of the X-ray system in accordance with DIN 6868-5

The constancy check of the X-ray system (in accordance with DIN 6868-5) is normally performed every 4 weeks.

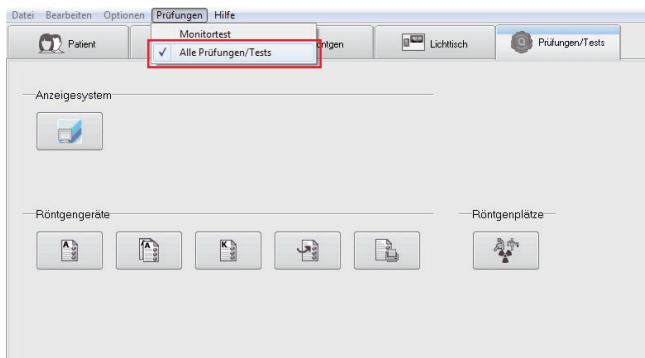
Constancy testing is carried out by taking X-ray exposures of the test body using the same dosing parameters as used for the acceptance test (benchmark values).

The recorded constancy test image (test exposure) is compared with the X-ray of the acceptance test (reference image acquisition), and the measurements are checked for possible deviation from the benchmark values (reference values).

The constancy test image is clearly labelled by DBSWIN.

10.2 Calling up the test module in DBSWIN

› In the [Checks] menu, choose the menu input [All checks/tests].



Test of the image reproduction system (IRS) in accordance with DIN 6868-157

- Daily checks
- 6-monthly checks
- Annual check
- Acceptance test
- Acceptance test for the homogeneity of multiple monitors



Acceptance test for the X-ray system in accordance with DIN 6868-151



Partial acceptance test of the X-ray system in accordance with DIN 6868-151



Constancy check of the X-ray system in accordance with DIN 6868-5



Opening/managing checks

- Opening checks
- Editing checks
- Deleting checks



Printing/exporting checks

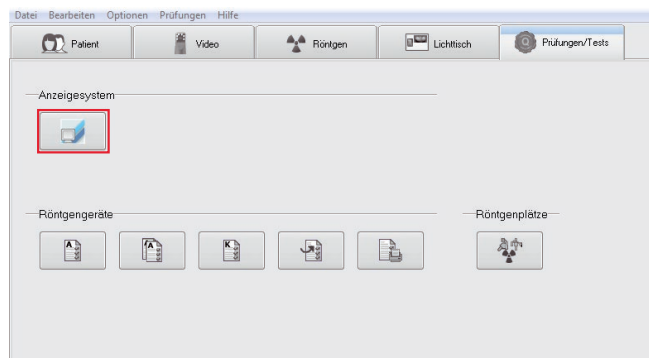
- Printing checks
- Exporting checks as a file



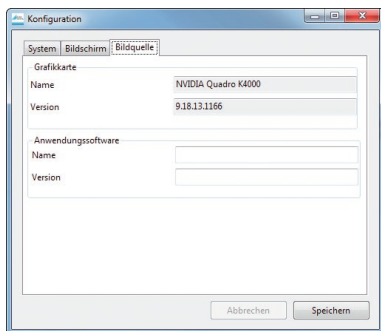
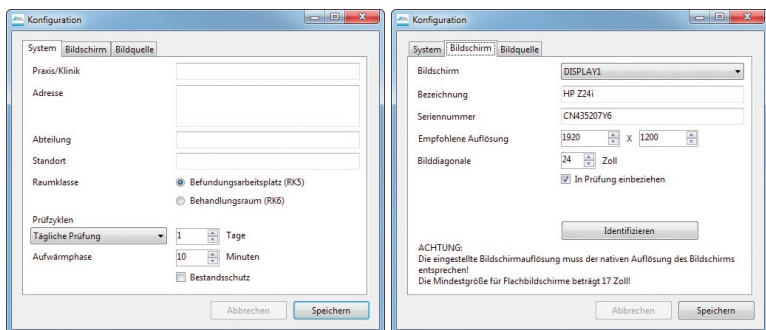
Dialog for creating/changing X-ray stations
(see 3.6 X-ray module)

10.3 Checks on the image reproduction system (IRS) in accordance with DIN 6868-157

- › Click the button [Perform monitor test].



- › Enter the required information in the tabs [System], [Monitor] and [Image source] and check it. This needs to be entered once when the monitor test is first started.



- › Click [Save] to save the data.

Acceptance test for the image reproduction system (IRS) in accordance with DIN 6868-157

- › Enter a user and select the required check:
 - Acceptance test
 - Acceptance test for the homogeneity of multiple monitors

Monitorprüfung

Betreiber

Praxis/Klinik Dr. Mustermann
Adresse Höpfigheimer Straße 17
74321 Bretigheim-Bisingen

Abteilung Test
Standort Test

Prüfungen

Benutzer Mustermann


Bildschirm HP Z24i

Abnahmeprüfung muss durchgeführt werden!

Abnahmeprüfung

Berichte Start

Konfiguration Beenden

- › Click [Start].
The check starts.
- › Follow the instructions of the wizard and answer all questions.
If any questions or instructions are unclear, use  to call up the help tool.

Constancy test on the image reproduction system (IRS) in accordance with DIN 6868-157

- › Enter a user and select the required check:
 - Daily checks
 - Annual check

Monitorprüfung

Betreiber

Praxis/Klinik Dr. Mustermann
Adresse Höpfigheimer Straße 17
74321 Bretigheim-Bisingen

Abteilung Test
Standort Test

Prüfungen

Benutzer Mustermann


Bildschirm HP Z24i

Abnahmeprüfung muss durchgeführt werden!

Abnahmeprüfung

Berichte Start

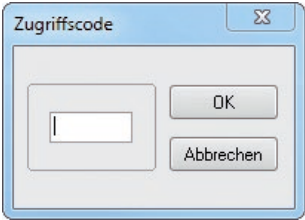
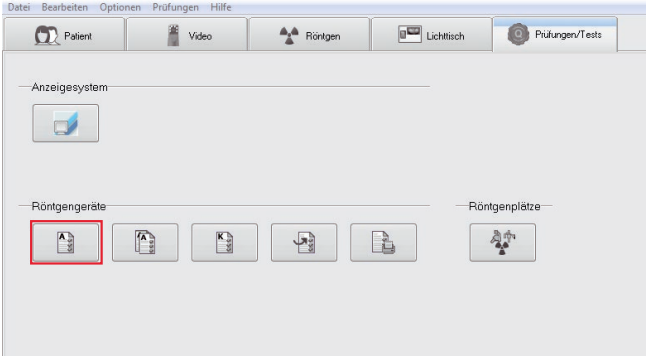
Konfiguration Beenden

- › Click [Start].
The check starts.
- › Follow the instructions of the wizard and answer all questions.
If any questions or instructions are unclear, use  to call up the help tool.

10.4 Acceptance test for the X-ray system in accordance with DIN 6868-151

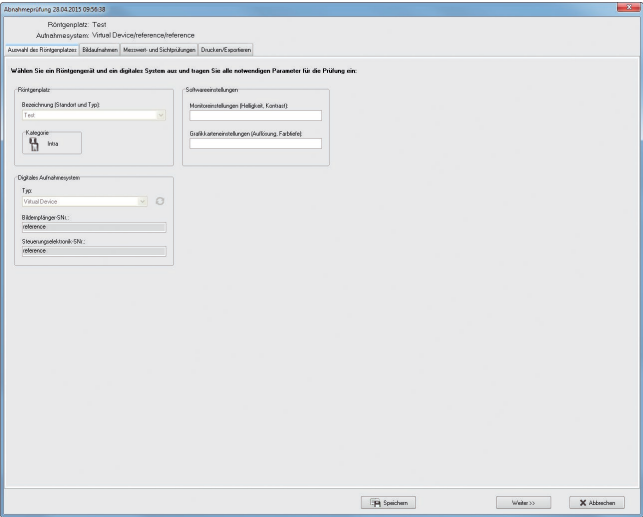
› Click the button [Perform acceptance test].

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"Selection of the X-ray station" tab

- › Select an X-ray station.
- › Enter all required information into the form fields.
- › Click the "Next" button.



"Image exposures" tab

- › Enter reference values
- › Take test X-rays on the X-ray unit and read in the images.
- › Perform visual checks and measurements on the X-ray image.
- › Enter the image parameters into the form fields.
- › Click the "Next" button.

"Measured value check and visual test" tab

- › Enter the resulting values into the form fields.
- › Click the [Next] button.

"Print / Export" tab

- › Define the print settings by pressing the [Configure print settings] button. (1)
 - › Print out the results of the check by pressing the [Print check] button. (2)
- Or:
- › Define the export settings. (3)
 - › Export the check by pressing the [Export files] button. (4)
 - › Save the check by pressing the [Save] button.
 - › Close the check by pressing the [Close] button.

Abnahmeprüfung 28.04.2015 10:09:49

Röntgenplatz: Test

Aufnahmesystem: Virtual Device/reference/reference

Auswahl des Röntgenplatzes Bildaufnahmen Messwert- und Sichtprüfungen **Drucken/Exportieren**

Hier können Sie den Prüfungsbericht ausdrucken bzw. exportieren:

Druckeinstellungen

Drucker: HP LatexJet P3015 PS

Papierformat: Hochformat

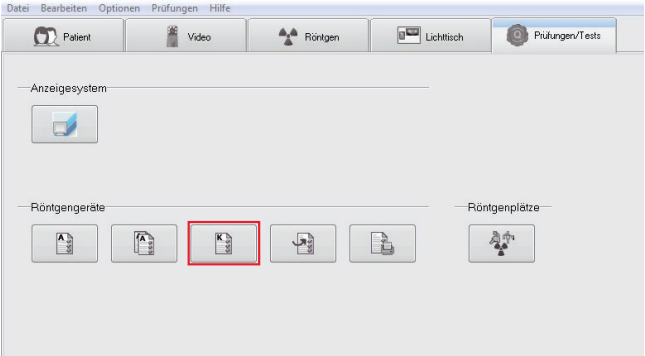
Exporteinstellungen

☐ Prüfungsbericht nach dem Export öffnen

☐ Referenzbild nach dem Export öffnen

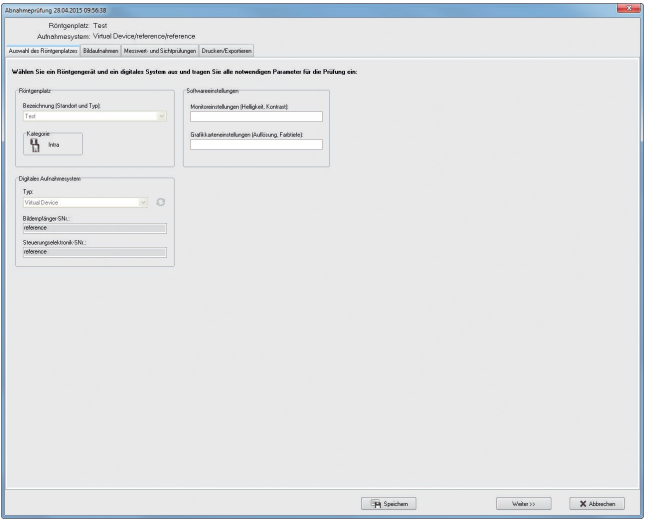
10.5 Constancy check of the X-ray system in accordance with DIN 6868-5

› Click the "Perform consistency check" button.



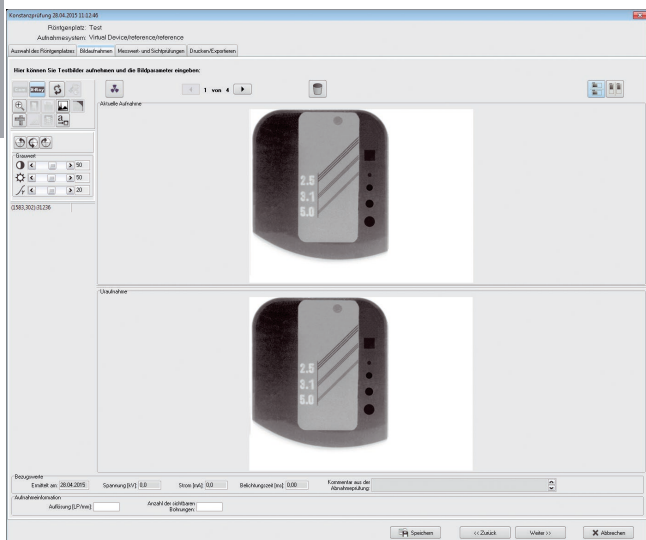
"Selection of the X-ray station" tab

- › Select an X-ray station.
- › Enter all required information into the form fields.
- › Click the "Next" button.



"Image exposures" tab

- › Take test X-rays on the X-ray unit and read in the images.
- › Carry out visual checks of the X-ray image.
- › Enter the image parameters into the form fields.
- › Click the "Next" button.



"Measured value check and visual test" tab

- › Enter the resulting values into the form fields.
- › Click the [Next] button.

Röntgenplatz: Test
Aufnahmesystem: Virtual Device/reference/reference

Auswahl des Röntgenplatzes | Bildaufnahmen | **Messwert- und Sichtprüfungen** | Drucken/Exportieren

Geben Sie hier die für die Prüfung notwendigen Ergebniswerte ein:

— Funktionsprüfung:
Tubus mechanisch unversehrt und funktionsfähig? ☐ Ja ☐ Nein

— Messmittel (Hersteller / SNr):

Plattkörper: Absorber:

Prüfename: Anmerkungen:

Datum: 28.04.2015

"Print / Export" tab

- › Define the print settings by pressing the [Configure print settings] button. (1)
 - › Print out the results of the check by pressing the [Print check] button. (2)
- Or:
- › Define the export settings. (3)
 - › Export the check by pressing the [Export files] button. (4)
 - › Save the check by pressing the [Save] button.
 - › Close the check by pressing the [Close] button.

The screenshot shows a software window titled 'Abnahmeprüfung 28.04.2015 10:09:49'. Inside, the 'Röntgenplatz: Test' and 'Aufnahmesystem: Virtual Device/reference/reference' are displayed. A tab bar at the top includes 'Auswahl des Röntgenplatzes', 'Bildaufnahmen', 'Messwert- und Sichtprüfungen', and 'Drucken/Exportieren'. The 'Drucken/Exportieren' tab is active, showing the instruction 'Hier können Sie den Prüfungsbericht ausdrucken bzw. exportieren:'. Below this, there are two sections: 'Druckeinstellungen' and 'Exporteinstellungen'. The 'Druckeinstellungen' section shows 'Drucker: HP LaserJet P3015 PS' and 'Papierformat: Hochformat', each with a printer icon to its right. The 'Exporteinstellungen' section has two checkboxes: 'Prüfungsbericht nach dem Export öffnen' and 'Referenzbild nach dem Export öffnen', with a document icon to its right.

11. Server Manager



For information on the procedure for carrying out data backup, see section 2 - "Data Backup".

EN
US



CAUTION

Risk of data loss due to incorrect configuration

Configuration must only be carried out either by Dürr Dental personnel or by a suitably qualified person approved by Dürr Dental.

11.1 General functions and use

The Server Manager is for the central management and configuration of the network services and the DBSWIN data inventory. In addition, tasks relating to the backup and restore of the databases and to intercommunication with clients are carried out here. The Server Manager is also used for maintenance tasks relating to the DBSWIN data inventory. The Server Manager is installed and configured by the system administrator or service technician during the DBSWIN installation process.

11.2 Launching the Server Manager



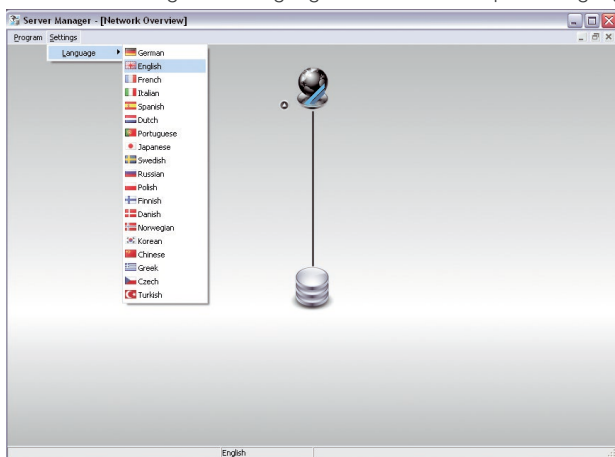
NOTICE

Only execute the Server Manager on the computer acting as the DBSWIN server.

- › Launch the Server Manager by choosing *Start > All Programs > Dürr Dental > DBSWIN > Server Manager*.

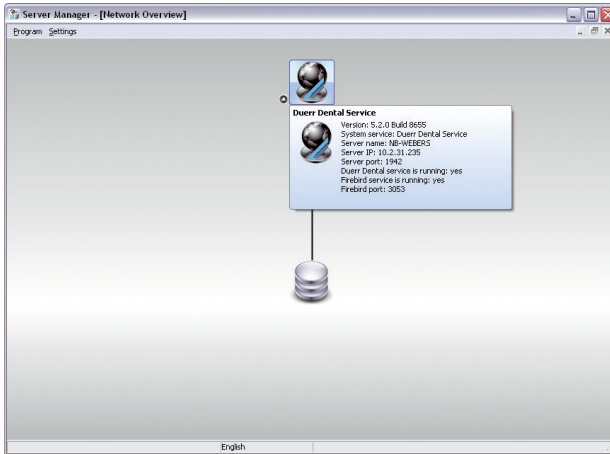
11.3 Language Settings

- › Choose "Settings" -> "Language" to select the required language for the Server Manager.

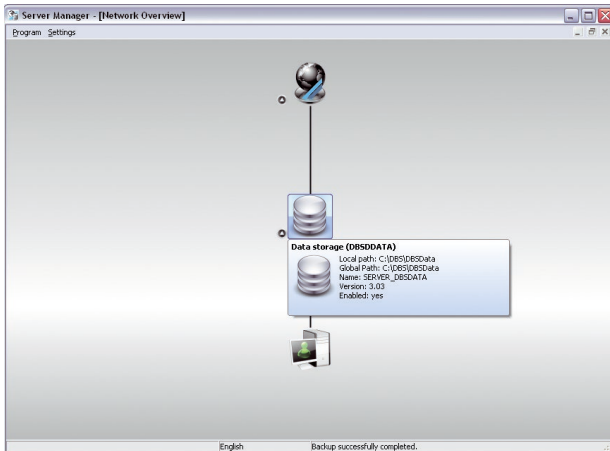


11.4 Dürr Dental Service

- › When you hover the mouse over the Dürr Dental Service symbol, the properties of the service are displayed.
- › If you click the "Dürr Dental Service" icon, additional actions for managing the service and tasks appear.



- › When you hover the mouse over the Data Inventory symbol, the properties of the data inventory are displayed.
- › If you click on the Data Inventory symbol, further actions for managing the data inventory appear.

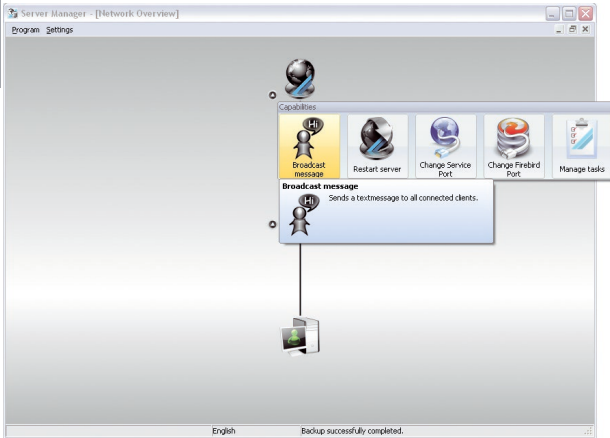


Sending messages to logged in clients

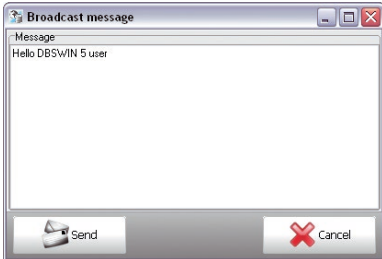


For administrative purposes, central messages can be sent to all connected DBSWIN clients from the Server Manager. The messages are sent using the TCP network protocol.

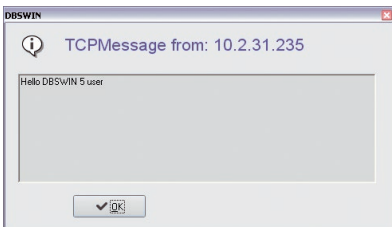
- › Click the "Dürr Dental Service" icon.
- › Select the option for sending a message to everyone.



- › Enter your message.
- › Click "Send".



- › Message at client station.

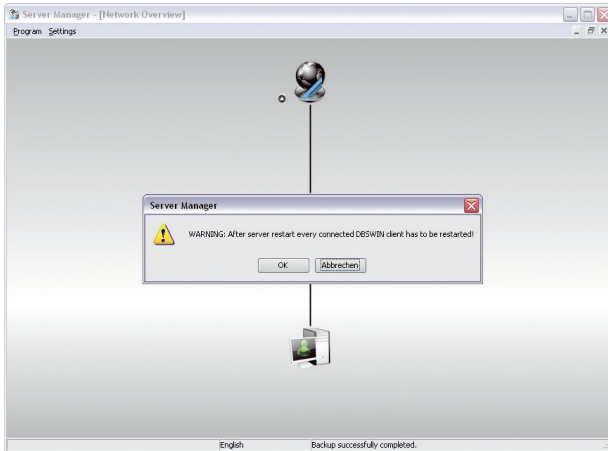


Restart the server

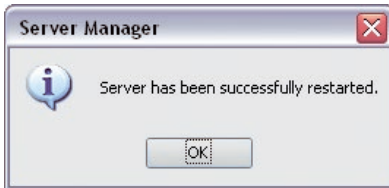


The "Dürr Dental Server" and "Firebird Server" services can be restarted from the Server Manager. As a result, all clients that are logged into DBSWIN have to log in again.

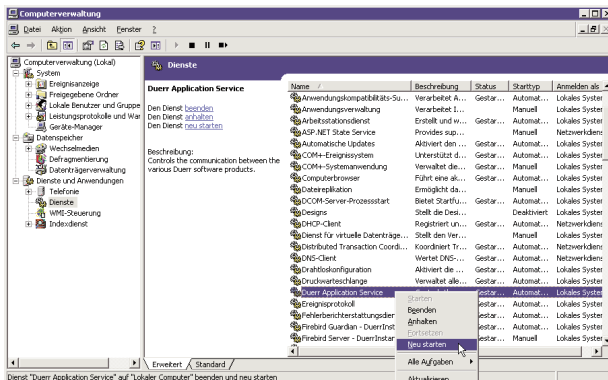
- Click the "Dürr Dental Service" icon.
- Choose the option for restarting the server.



- Confirm the message with "OK"



You can also manage the Dürr Dental service in Windows Service Management. It appears there as "Dürr Dental Service". The Firebird SQL server service appears as "Firebird Server - Duerr Instance" and "Firebird Guardian - Duerr Instance".



Changing the service port

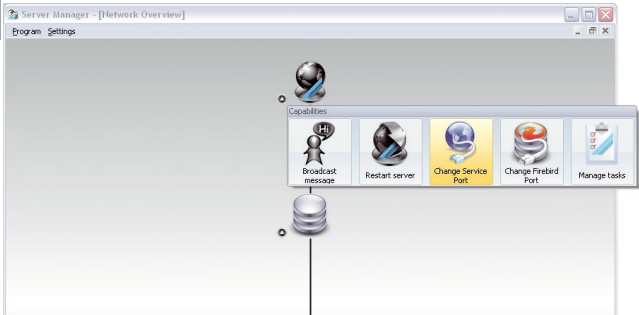


NOTICE

Once you have changed a service port, you must manually modify the same port settings on all DBSWIN clients. Service port changes should only be made if there are conflicts with firewall settings or other software.

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US

- › Click the "Dürr Dental Service" icon.
- › Choose the option for changing the service port.



- › Read the message and confirm by clicking "OK".



- › Select another port and confirm by clicking "OK".



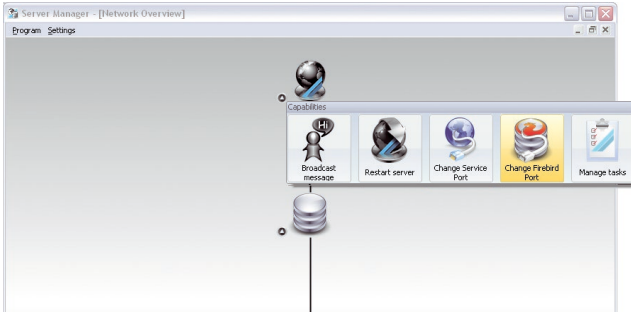
Changing the Firebird port



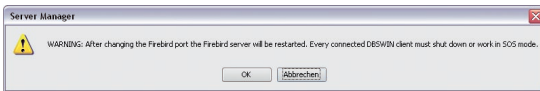
NOTICE

Once the Firebird port has been changed, all DBSWIN clients must be restarted or switched to SOS mode. Changes to the Firebird port should only be made if there are conflicts with firewall settings or other software.

- › Click the "Dürr Dental Service" icon.
- › Select the option for changing the Firebird port.



- › Read the message and confirm by clicking "OK".



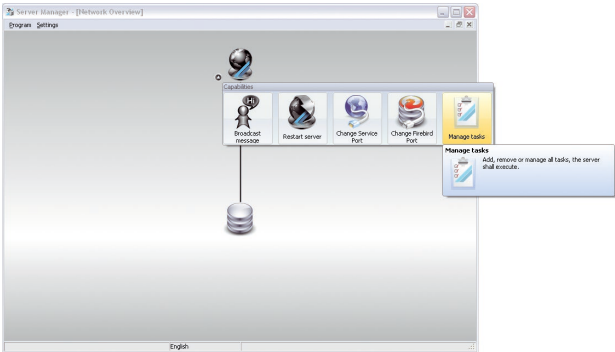
- › Select another port and confirm by clicking "OK".



Manage tasks

Create new backup job

› Click the Dürr Dental Service symbol and then click the option for managing tasks.

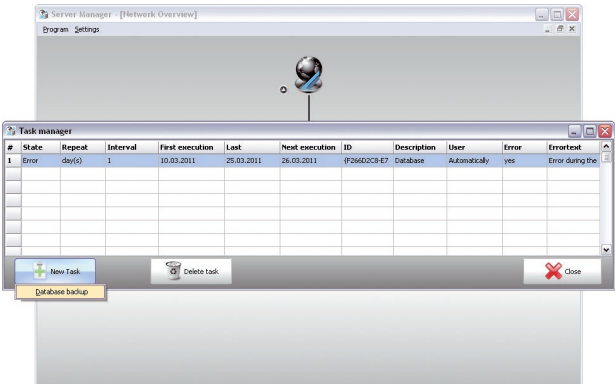


› Click the option for a new task and then select the option for a database backup

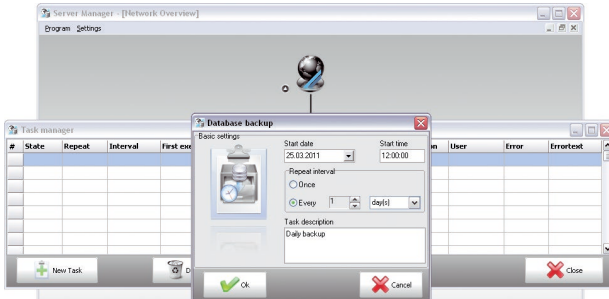


NOTICE

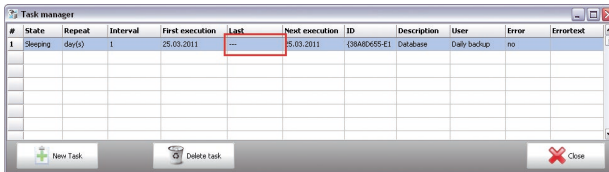
If you select "Database Backup", X-ray and video images are not backed up.



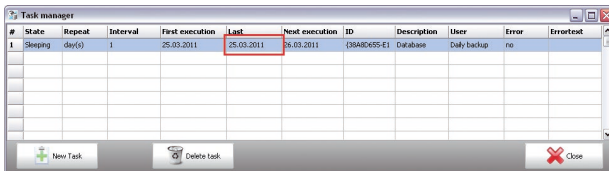
- › Fill in the required fields for a new backup job in order to create a job for backing up the database at a specific time each day, for example.



- › The created backup job and its properties are displayed in the Task Manager.



- › Task Manager display following successful backup.

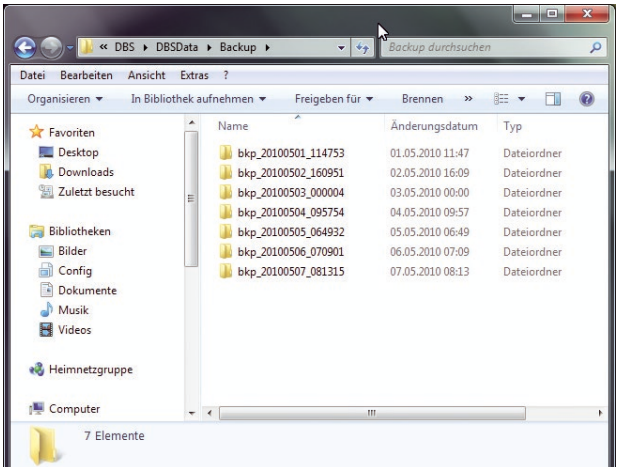
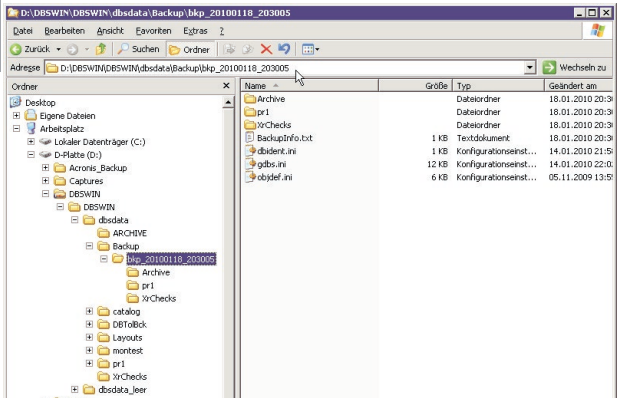


Storage location of database backups?

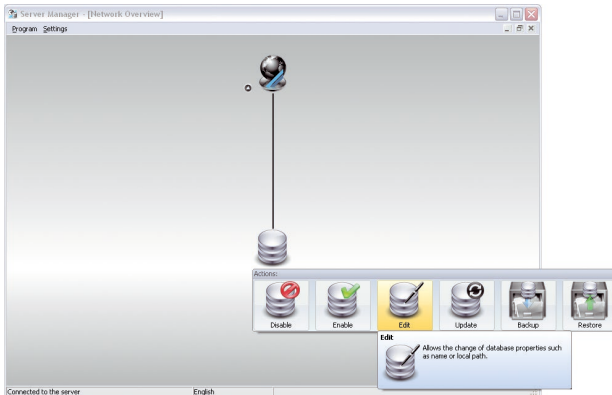


The database backups are written to the DBSWIN server. A "Backup" directory is created beneath the central directory "DBSData". The backups are stored here, labeled with their date and time. The system automatically retains the last 20 generated backups before replacing the oldest with new backups. Backups that were created manually using the Server Manager are not overwritten.

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11.5 Data inventory (DBSDATA)



Deactivate/activate

The database can be activated and deactivated, e.g. for maintenance, using this function.

- › Click "Deactivate".
The database is deactivated.
- › Click "Activate".
The database is activated again.

Edit

"Edit" allows the paths for the local/global path to be edited.

- › Click "Edit".
- › Make your changes.
- › Click "OK".

Update

"Update" allows a database of an older version, e.g. one that has been copied, to be updated to the latest version.

- › Click "Update".
The update is started.

Save

This function allows a manual backup of the database to be started.

- › Click "Save".
- › Enter a comment on the backup.
- › Click "OK".
The database is saved.

Restore

"Restore" allows backups to be managed or installed again.

- › Click "Restore".
- › Select a backup.
- › Click "Install".
The backup is installed again.
- › Click "Delete".
The backup is deleted.

11.6 Moving the data inventory

Example: Moving a single-station system to a network system with a server and clients.



You have to move the entire DBSWIN data inventory from one computer (e.g. single-station system) to a new computer (e.g. server for multi-station operations) in several steps. First, you must create a fully functional total data backup (see section 2 - "Data backup") of the existing DBSWIN system.

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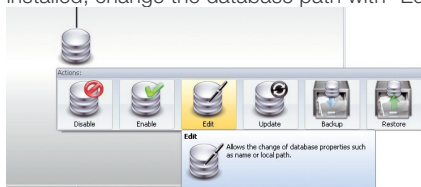
Step 1:

- › No DBSWIN client may be started. You can check this in the Server Manager.
- › Deactivate the data inventory. The deactivated state is then indicated by the corresponding symbol.
- › Copy the whole folder "DBSData" of the local installation (standard path: C:\DBS) to any segment on the server drive.



In order that the folder can be used by all the clients in the network, it must be enabled in the network and the corresponding user rights assigned.

- › Install DBSWIN on the server (see 9000-618-43 "Installation on Server"). Answer the question for the local database path with the new path of the copied folder "DBSData" or, if DBSWIN is already installed, change the database path with "Edit".



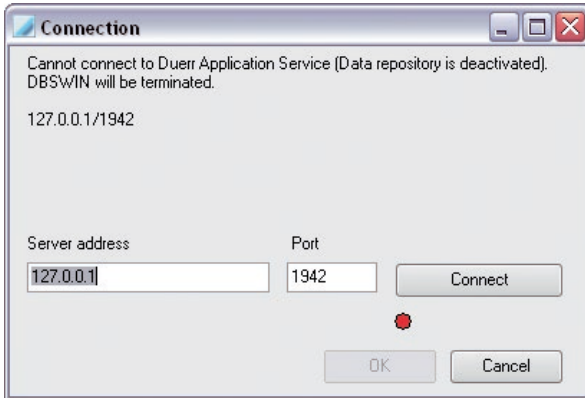
- › If the database was copied from an older installation, it now has to be updated. Start the Server Manager and click "Update" for the data inventory.

Step 2:

The following steps have to be performed on all clients which are to have access to the new database and on which DBSWIN is already installed.
If new computers are to be integrated into the network, DBSWIN has to be installed as a client installation (see 9000-618-43 "Installation DBSWIN (Clients)").

› Start DBSWIN.

A message is displayed that no database was found.



› Enter the new server address and port.

› Click "Connect".

The client is connected to the new database.

› Click "OK".

Step 3:

› Delete the old folder "DBSData" of the local installation.



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