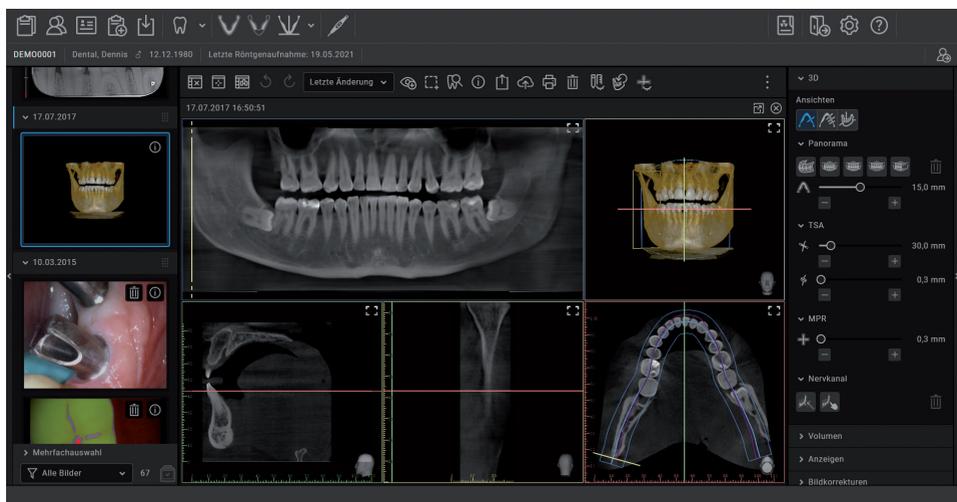


# VistaSoft 4.0



EN Manual



RxOnly



2110100001L02 2510V032

The current version of the software manual is available to download as a PDF from the download centre:



<http://qr.duerrdental.com/2110100001>  
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## ! Important information

This manual applies to VistaSoft, REF: 2110100003, version 4.0.11 or higher. This manual forms part of the software. It corresponds to the version of the software and the technical standards valid at the time of installation.

 In the event of non-compliance with the instructions and information contained in this manual, the manufacturer and the distributor will not offer any guarantee or accept any liability for the safe operation and the safe functioning of the unit and the software.

The German version of the instructions is the original manual. All other languages are translations of the original manual.

All circuits, processes, names, software programs and units mentioned in this document are protected by copyright.

The Installation and Operating Instructions must not be copied or reprinted, neither in full nor in part, without written authorisation from the copyright owner.

## 1 Warnings and symbols

The warnings in this document are intended to draw your attention to possible injury to persons or damage to machinery.

The following warning symbols are used:

 General warning symbol

The warnings are structured as follows:

 **SIGNAL WORD**  
**Description of the type and source of danger**

Here you will find the possible consequences of ignoring the warning

- › Follow these measures to avoid the danger.

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

These symbols are used in the document and on or in the unit:

 Note, e.g. specific instructions regarding efficient and cost-effective use of the unit.

 UDI Unique Device Identifier (UDI)

 REF Order number

 LOT Lot designation

 CE<sup>0297</sup> CE labelling with the number of the notified body

 Refer to the accompanying electronic documents.

 MD Medical device

**Rx<sub>Only</sub>** Caution: In order to comply with federal legislation (US-FDA 21CFR801.109), the software may only be sold to dentists or on behalf of a dentist.

 Manufacturer

 Dealer

 CH REP Authorised representative for Switzerland

Action instructions are identified specifically in this document:

1. Perform this action.

## 2 Safety

The software has been developed to rule out virtually all dangers when it is used properly and 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

The sale or prescription of this software by a medical practitioner is subject to the restrictions set out in German federal legislation. The software must only be used under constant supervision by a dentist or licensed medical practitioner.

**Rx<sub>only</sub>** Caution: In order to comply with federal legislation (US-FDA 21CFR801.109), the software may only be sold to dentists or on behalf of a dentist.

### 2.1 Classification

| Classification                    |     |
|-----------------------------------|-----|
| Medical Device Class (MDR)        | IIb |
| FDA classification (CFR Title 21) | II  |

### 2.2 Intended purpose

The software features functions for recording, displaying, analysing, diagnosing, managing and sending digital or digitised 2D and 3D images and videos in dental practices and specialist dental clinics.

### 2.3 Intended Use / Indications for 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 be used with the software include optical video cameras, digital X-ray cameras, image plate scanners, extraoral X-ray devices, intraoral scanners and TWAIN compatible image sources.

The software must only be used by authorized healthcare professionals in dental areas for the following tasks:

- Filter optimisation of the display of 2D and 3D images for improved diagnosis
- Acquisition, storage, management, display, analysis, editing and supporting diagnosis of digital/digitised 2D and 3D images and videos
- Forwarding of images and additional data to external software (third-party software)

The software is not intended for mammography use.

### 2.4 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.

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

The software is not intended for mammography use.

### 2.5 Functions

The patient data can be copied from external programs via defined interfaces.

The 2D or 3D image data is saved for the selected patient in a database and can be displayed in an optimised manner to help with diagnosis.

Different views for reconstructed X-ray image layers (MPR) and 3D volumes from 3D image data are available.

Image data can be imported and exported in various graphics formats together with the metadata or sent to external programs via defined interfaces.

VistaSoft can be used both as a single workstation system and as a multi-station system in client/server operation.

## 2.6 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.
- The manufacturer recommends that installation, readjustments, alterations, upgrades and repairs be carried out either by the manufacturer itself or by a qualified specialist authorised by the manufacturer.

## 2.7 Cybersecurity measures (security context)

The software is installed on a computer in an IT network that can be connected to the Internet. Therefore, the security context, which is a shared responsibility between the manufacturer and operator in terms of cybersecurity, must be taken into account.

The following **administrative measures** are required:

- Train employees in security and data protection.
- Appoint a data protection officer.
- Appoint a medical IT risk manager.  
Use of the IEC 80001-1 standard is recommended to manage security risks for medical IT networks.

The configuration of a medical IT network requires the expertise of a network administrator. The following changes to a medical IT network can create new security risks that require a reassessment of the risk analysis:

- Changes to the IT network configuration
- Adding components (hardware or software) to the medical IT network
- Removing components from the medical IT network
- Updating or modernizing components in the medical IT network



Report cybersecurity incidents to the manufacturer at [incidents@duerrdental.com](mailto:incidents@duerrdental.com).

The following **technical measures** must be taken by the operator in order to use the software safely:

- Protect the medical IT network with a firewall and antivirus software.
- Disable all services, applications and network protocols that are unnecessary or unsafe.
- If possible, use a network connected by cables.
- Look for evidence of possible virus infection and, if applicable, check with the antivirus software and remove the virus.
- Always keep the software used up to date and make sure you are working with the latest version, particularly with regard to the operating system, firewall and antivirus software.
- Download software or firmware only from trusted sites (e.g. the manufacturer).

- Regularly check the integrity of the software or firmware.
- Check the system requirements prior to every installation.
- Segment the medical IT network to an extent that makes sense.
- Use suitable user authentication and user authorisation within the operating system. Only assign the necessary rights to the user accounts.  
Restrict administrative roles to a very limited number of accounts.
- Use the user administration system offered by the software or medical devices.
- Apply the generally accepted standards and requirements for the assignment of passwords.
- Encrypt all data containing personal information.
- Perform regular data backups.
- Check external storage media (e.g. USB sticks, memory cards) before they are connected to the medical IT network.
- Restrict Internet access to a minimum.
- Check e-mails and attachments for potentially malicious content.
- Carry out regular data backups.
- Secure hardware against unauthorized access (IT network, server and connected devices).

For further information, see "Cybersecurity measures"

## 2.8 Notification requirement of serious incidents

The operator/patient is required to report any serious incident that occurs in connection with the device to the manufacturer and to the competent authority of the Member State in which the operator and/or patient is established/resident.



Notify the manufacturer of any serious incidents under the following email address: [incidents@duerrdental.com](mailto:incidents@duerrdental.com).

### 3 Legal documents for the software from Dürr Dental

The current legal documents for the software services from Dürr Dental can be found at <https://legal.duerrdental.com>.

- General licence terms and conditions of sale: <https://legal.duerrdental.com/terms>
- Software Data Privacy Statement: <https://legal.duerrdental.com/data-privacy>

## 4 System requirements



The following information merely states the requirements for the computer system. Even if the stated system requirements are met, correct operation of the hardware/software can still be disrupted by specific hardware and software features on the customer side. In such cases, the manufacturer and the distributor accept no responsibility or liability for trouble-free operation of the hardware/software.

The connection of additional systems to the PC may change the system requirements. Comply with the system requirements of all connected systems.

valid from version 4.0.10, REF 2110100003

|                      |   |
|----------------------|---|
| CPU:                 | ≥ Intel Core i3   |
| RAM:                 | ≥ 4 GB<br>For automatic nerve canal detection: ≥ 8 GB   |
| Operating systems:   | 64-bit operating system:<br>Microsoft Windows 10 (Pro or higher)<br>Microsoft Windows 11 (Pro or higher)<br>Microsoft Windows Server 2019<br>Microsoft Windows Server 2022<br>Microsoft Windows Server 2025   |
| Hard disk:           | Workstation (without database) ≥ 50 GB<br>Server ≥ 500 GB (recommended)<br>The database memory requirements depend on the number of images taken at the surgery in question. (Camera image: approx. 1 MB, X-ray image: approx. 2 MB – 10 MB, DVT: 200 – 300 MB)   |
| Data backup:         | Daily data back-up  |
| Installation medium: | Download  |
| Interface:           | Ethernet ≥ 100 MBit/s<br>Internet connection (for online functions with Dürr Dental ID, installation of demo patient and installation of support tools)   |
| Graphics card:       | Resolution ≥ 1280 x 1024<br>Depth of colour 32-bit, 16.7 million colours<br>For the display of 3D X-ray images: NVIDIA GeForce ≥ 1 GB with OpenGL 3.0<br>For automatic nerve canal detection: NVIDIA GeForce ≥ 4 GB with OpenGL 3.0<br>With regard to producing 3D X-ray images, please see requirements for 3D X-ray units (VistaVox S / ProVecta 3D Prime and VistaVox S Ceph / ProVecta 3D Prime Ceph) |
| Diagnostic monitor:  | In accordance with DIN 6868-157, room category 5 or 6 (depending on the requirements)   |
| Notes:               | Data migration is possible from an existing DBSWIN installation into VistaSoft from DBSWIN 5.11 or higher.  |



Information about the system requirements of supported devices can be found in the installation package (*Display system requirements* in the Start menu) or in the download area at [www.duerdental.com](http://www.duerdental.com) (document no. 9000-618-148).  
<http://qr.duerdental.com/9000-618-148>

## 4.1 System requirements for VistaSoft Implant / Guide

The following system requirements apply to the additional module VistaSoft Implant / Guide:

|                    |   |
|--------------------|---|
| CPU:               | ≥ Quad Core 2.8 GHz   |
| RAM:               | ≥ 4 GB  |
| Operating systems: | Microsoft Windows 7, 64-bit, SP1<br>Microsoft Windows 8.1, 64-bit<br>Microsoft Windows 10, 64-bit, version 1607 or 1709<br>Microsoft Windows 11 (Pro or higher)                                     |
| Graphics card:     | Dedicated graphics card with at least 2 GB graphics memory from Nvidia or AMD Radeon<br>With OpenGL 4, DirectX 11.1, Shader Model 5<br>Graphics driver from August 2015<br>Resolution ≥ 1920 x 1080 |
| Interface:         | Free USB port for dongle  |
| .NET Framework:    | Microsoft .NET Framework 2.0<br>Microsoft .NET Framework from 3.5 SP 1<br>Microsoft .NET Framework 4.5.2<br>Microsoft .NET Framework 4.6.2  |

---



## Installation

This section covers the installation and configuration of the software ready for use in the default configuration.

In addition, it also covers uninstallation and migration of data from DBSWIN to VistaSoft.



We recommend that the installation, configuration and migration of data from DBSWIN is only performed by the manufacturer or by a person/body authorized by the manufacturer to do this.

The Start menu of the installation package of VistaSoft offers various options:

|   |  |
|---|--|
| Install VistaSoft                             | Installation of the VistaSoft software is started.   |
| Display system requirements                   | The PDF file with the system requirements is opened.   |
| Show the manual and installation instructions | The manual is opened in a browser.   |
| Installing Image Bridge                       | Plugin for imaging programs (e.g. Sidexis) in order to control imaging devices from Dürr Dental (VistaScan, VistaRay, VistaCam) and Air Techniques (ScanX, SensorX, CamX). |
| Display ReadMe                                | Information regarding the current software version is displayed.   |
| Open DÜRR DENTAL SE website                   | The website of <i>Dürr Dental SE</i> is opened in the default browser (Internet connection required).  |

## 5 Installing the software

Depending on the particular application, there are different ways in which the imaging software can be installed.

|                                 | Description  | Special information   |
|---------------------------------|--|---|
| Single workstation installation | Both the software and the database are installed locally on a computer.  |   |
| Multi-station installation      | The software is installed on several clients (computers). The database is installed centrally on a server, which is then accessed by the clients. <ul style="list-style-type: none"> <li>– All clients are connected to a network.</li> <li>– The server is connected to the same network as the clients.</li> </ul> | Port 3113 is used by default. If it is occupied the next free port is used instead.<br>The ports that are used can be adapted in the configuration (see "73.2 Workstation" and "73.4 Connection settings").     |
| Terminal server installation    | The software is installed on a terminal server, which multiple clients can access in order to use the software via a terminal session.   | The following can be selected as environment variables: <ul style="list-style-type: none"> <li>– CLIENTNAME</li> <li>– USERNAME</li> </ul> A local client installation is required in order to use USB devices. |

To ensure that the multi-station installation and terminal server installation are successful and there are no problems, carry out the following steps in the order shown:

1. Install the software and database on the server
2. Start the software on the server
3. Install the clients and establish a connection to the database

Selection of the operating mode (single workstation, server or client / terminal server) is made when the software is started for the first time (see "5.3 Launching the software for the first time").

## 5.1 Preparing for the installation

Before installing the software, we recommend you perform a complete data backup for the software already installed on the computer.

We also recommend that you uninstall any antivirus software while you are performing the installation.

To prevent accidental triggering of antivirus alarms and in order to increase speed, we recommend excluding the following directories from the antivirus scan after installation:

- C:\ProgramData\Duerr\VistaSoft\ (for server, client and single-workstation installation)
- C:\VistaSoftData (for server and single-user installation)
- C:\Program Files (x86)\Duerr
- C:\Program Files\Duerr

The directories stated above refer to a default installation. However, they may be different if you select different directories during installation.

The system time of the computer must not be changed during the installation. For this reason, we recommend manually setting the system time during installation or disabling the Windows timer service.



The system time can be reset after installation of the software.

The imaging software uses the system time of the computer as a reference for the acquisition time of the images. In order to prevent faulty documentation of the images, the system time of the computer should be checked regularly.

## 5.2 Installing the software



Selection of the operating mode (single workstation, server or client / terminal server) is made when the software is started for the first time (see "5.3 Launching the software for the first time").

1. Download the current VistaSoft installation package:  
<http://www.duerrdental.com/vistasoft-download>



It may be necessary to restart the computer during installation.

2. Open the installation package (VistaSoft\_\*.iso).
3. Start the file **Start.exe**.  
The setup wizard is launched.
4. Select the installation language you require.
5. Select the option **Install VistaSoft**.
6. Click **Next**.
7. Accept the Licence Agreement.
8. Accept the Data Protection Declaration.
9. Specify the installation directory.  
The software is located in the installation directory.  
The path can be amended by clicking on ....
10. Select the installation data directory.  
The installation data directory must not point to a network path. It contains and saves all the software settings (e.g. window sizes, window positions, etc.). It does not contain the image data database. This is created and/or queried when the software is launched for the first time.  
The path can be amended by clicking on ....
11. Activate all the devices that are to be installed in order to work with them on this computer.  
The device drivers are automatically installed; there is no need for manual driver installation. The units can be used immediately after installation.  
When **VistaVox / ProVecta 3D Prime** is selected, the computer is checked against the system requirements. If the minimum requirements are not met, a notice is displayed and the installation can be continued with or without the additional VistaVox component. We recommend that you do not install VistaVox / ProVecta 3D Prime.
12. If a device is not listed, click on **Unable to find your device?**  
The list of devices is then expanded.

13. Select the optional components you wish to install.

**Mobile Connect:** Software for connecting the Dürer Dental Imaging iPad app to the VistaSoft database



MobileConnect cannot be combined with VistaVox / ProVecta 3D Prime.

14. To automatically create a demo patient with example data, activate the option **Create demo patient**. (Internet connection required)
15. If **VistaPano S / ProVecta S-Pan** is activated in the device list, select the variant that is connected to the workstation.
16. In the overview, check the installation directories, components and devices that are to be installed.  
If an entry needs to be changed again, click **Back** to navigate to the relevant point and change the entry.
17. If the registration data is present in a template file, click ... and select the file.
18. Click **Install**.

The software will then be installed. In addition, VistaSoft Inspect is also installed (software for performing and archiving acceptance checks and consistency checks on the image reproduction and X-ray system).

19. Click **Finish** to complete the installation.
20. Continue with "5.3 Launching the software for the first time".

### 5.3 Launching the software for the first time

The installation is completed when the software is run for the first time.

Here, two settings are chosen that cannot be changed again afterwards:

- Operating mode (single workstation, server or client / terminal server):  
Depending on the operating mode, the system then either creates the database or sets up the connection to the database on the server. For a terminal server installation, the environment variable is defined (CLIENTNAME or USERNAME).
- Region:  
Some settings are made along with the region, e.g. dental notation, patient search and retention period for X-ray images. The settings are recommendations and can be changed individually according to need in the configuration. The selection of the region cannot be changed later on.

In addition, a practice also needs to be created when the software is started for the first time (single workstation or server).

If a DBSWIN installation is present, the data from the existing DBSWIN installation can also be migrated at the same time: "5.4 Migrating the data of a DBSWIN installation"

If the practice is already present from DBSWIN then it will also be copied across as part of the data migration.

#### Launching the software without an existing DBSWIN installation

##### Starting the software (server or single workstation)

1. Start the software (see "16 Starting the software").
2. Under **Select Operating Mode** select the option **Single workstation** or **Server**.
3. Click **Next**.
4. Select a region.  
Some settings are selected once along with the region in the software, e.g. dental notation, patient search and retention period for X-ray images. The settings are recommendations and can be changed according to need in the configuration.
5. Click **Next**.
6. Specify a path for the basic data directory.
7. Click **Next**.

An empty database is created.

8. Assign an administrator password (recommended) or activate the option *Continue without user administration*.  
When you assign a password, the system will indicate the strength of the chosen password. Click  for tips on creating stronger passwords.
9. Fill in all required fields in the window *Create practice*, see also "78.1 Configuration".
10. Check the database path and image path and adjust them if necessary.  
The practice database is saved under the database path.  
The images for the practice are saved under the image path.  
Both directories must be located on a local drive. Network drives are not permitted.
11. Click *Next*.  
A summary will be displayed.
12. Click *Finish*.
13. Confirm the installation of VistaSoft Monitor by clicking *OK*.  
The VistaSoft Monitor software for monitoring of connected devices is downloaded and installed. If no Internet connection is available then the software can also be downloaded and installed later on.

#### *Starting the software (client)*

1. Start the software (see "16 Starting the software").
2. Under *Select Operating Mode* select the option *Client*.
3. Click *Next*.
4. Click *Finish*.
5. Enter the IP address or computer name under which the database is installed under *Server*.
6. Enter the port that is to be used.  
The server certificate is displayed.
7. For checking the certificate, see also the chapter Cybersecurity, "Communication between server and client".

8. If the displayed certificate matches the one on the server, click *Trust certificate*.  
The connection to server is created.  
The software interface opens.

#### **Launching the software with an existing DBSWIN installation**

##### *Starting the software (server or single workstation)*

If data is to be migrated from an existing DBSWIN installation, then the following must be taken into account before starting VistaSoft for the first time:

- DBSWIN version 5.9 or higher must be installed – update to a higher version if necessary.
- Images archived in DBSWIN cannot be migrated – retrieve any images as required.
- DBSWIN must be closed.

1. Start the software (see "16 Starting the software").
2. If data is to be migrated from an existing DBSWIN installation, launch the import by clicking *Integration of DBSWIN Data and Settings*.  
For more information on migration refer to "5.4 Migrating the data of a DBSWIN installation".  
VistaSoft detects the DBSWIN installation (single workstation, client, server, terminal server) and migrates the necessary data. If DBSWIN is installed as a server, VistaSoft is also configured as a server. After the import it is not necessary to select an operating mode or set up a practice/surgery. Here, the DBSWIN installation is not changed or deleted.
3. If there is to be no data migration from the existing DBSWIN installation, skip the migration step by clicking *Skip Integration*.  
No data migration will take place. The operating mode and practice/surgery will need to be set up manually.
4. Select a region.  
Some settings are selected once along with the region in the software, e.g. dental notation, patient search and retention period for X-ray images. The settings are recommendations and can be changed according to need in the configuration.
5. Click *Next*.

6. Specify a path for the image data database.
7. Click *Next*.
8. Check the database path and image path of the practice(s) and change them if necessary.  
The practice database is saved under the database path.  
The images for the practice are saved under the image path.
9. Click *Next*.
10. Assign an administrator password (recommended) or activate the option *Continue without user administration*.  
When you assign a password, the system will indicate the strength of the chosen password. Click  for tips on creating stronger passwords.
11. Click *Next*.  
A summary will be displayed.
12. Click *Finish*.
13. Confirm the installation of VistaSoft Monitor by clicking *OK*.  
The VistaSoft Monitor software for monitoring of connected devices is downloaded and installed. If no Internet connection is available then the software can also be downloaded and installed later on.

**Starting the software (client)**

If data is to be migrated from an existing DBSWIN installation, then the following must be taken into account before starting VistaSoft for the first time:

- DBSWIN version 5.9 or higher must be installed – update to a higher version if necessary.
- Images archived in DBSWIN cannot be migrated – retrieve any images as required.
- DBSWIN must be closed.

1. Start the software (see "16 Starting the software").

2. If data is to be migrated from an existing DBSWIN installation, launch the import by clicking *Integration of DBSWIN Data and Settings*.  
For more information on migration refer to "5.4 Migrating the data of a DBSWIN installation".  
VistaSoft detects the DBSWIN installation (single workstation, client, server, terminal server) and migrates the necessary data. If DBSWIN is installed as a client, VistaSoft is also configured as a client. After the import it is not necessary to select an operating mode or set up a practice/surgery. Here, the DBSWIN installation is not changed or deleted.
3. If there is to be no data migration from the existing DBSWIN installation, skip the migration step by clicking *Skip Integration*.  
No data migration will take place. The operating mode and practice/surgery will need to be set up manually.
4. Click *Next*.  
A summary will be displayed.
5. Click *Finish*.

**5.4 Migrating the data of a DBSWIN installation**

With VistaSoft you have the option of a one-off migration of certain settings and data from an existing DBSWIN installation. Different data will be migrated depending on how DBSWIN is installed.

- "Migrating the data of a DBSWIN single-user installation"
- "Migrating the data of a DBSWIN server installation"
- "Migrating the data of a DBSWIN client installation"

The VistaSoft operating mode is executed automatically in accordance with the DBSWIN configuration present:

| DBSWIN operating mode | VistaSoft operating mode |
|-----------------------|--------------------------|
| Client                | Client                   |
| Server                | Server                   |
| Single station        | Server                   |

The following must be noted for the migration:

- DBSWIN version 5.9 or higher
- Data migration is performed once from DBSWIN to VistaSoft. Afterwards you can continue working with DBSWIN, but there will be no further alignment of data with VistaSoft.
- The DBSWIN installation is not changed.
- Images are not copied to the VistaSoft database. They remain preserved in the DBSWIN directories. VistaSoft creates references to these directories.
- Video films are not managed by VistaSoft and can only be displayed as a preview image, but they cannot be played back.
- Comments contained in the images can be edited in VistaSoft, if they are supported by VistaSoft. Comments that are not supported, e.g. text annotations, are displayed only.
- The user management is not copied. The users will need to be created again in VistaSoft.

Once the migration has been completed, a summary is displayed with information regarding any problems.



We recommend uninstalling DBSWIN after successful migration. When doing this, the DBSData directory must not be deleted.

It is possible to move the DBSData directory from DBSWIN to the VistaSoftData directory of VistaSoft (see "83.1 Moving the DBSData directory"). As a result of this, only one directory needs to be backed up.

### **Migrating the data of a DBSWIN single-user installation**

With a VistaSoft single-user installation the following data will be migrated from DBSWIN:

Client data:

- Server address (the port is not imported because a different port is used in VistaSoft)
- Import path for the patient import
- VDDS-media settings (active, referenced practice management program, support for level 6)
- If a diagnostic workstation: Monitor tests

Server data:

- Address of the DBSWIN database
- Practices and practice settings
- Patients and patient fields
- Patient image data (X-ray and video)  
The object type from DBSWIN is assigned in VistaSoft to an acquisition type and an image type
- Templates (layouts) for views

### **Migrating the data of a DBSWIN server installation**

With a VistaSoft server installation the following data will be migrated from DBSWIN:

- Address of the DBSWIN database
  - Practices and practice settings
  - Patients and patient fields
  - Patient image data (X-ray and video)  
The object type from DBSWIN is assigned in VistaSoft to an acquisition type and an image type
  - Templates (layouts) for views
- No client configuration is migrated.

### **Migrating the data of a DBSWIN client installation**

With a VistaSoft client installation the following data will be migrated from DBSWIN:

- Server address (the port is not imported because a different port is used in VistaSoft)
- Import path for the patient import
- VDDS-media settings (active, referenced practice management program, support for level 6)
- If a diagnostic workstation: Monitor tests

## 6 Data backup

Regular data backups of the VistaSoft database and image directories are absolutely essential.

This applies particularly in cases where there is a legal retention period for X-ray images and an X-ray device (e.g. VistaScan, VistaRay, VistaPano) with VistaSoft is used.

For a full data backup the following directories must be backed up:

- C:\ProgramData\Duerr\VistaSoft\ (for server, client and single-workstation installation)
- C:\VistaSoftData (for server and single-user installation)

The directories stated above refer to a default installation. However, they may be different if you select different directories during installation.

VistaSoft offers two options for backing up data:

- Data backup in the cloud with VistaSoft Cloud Drive, see also the VistaSoft Cloud Drive manual (<http://qr.duerrdental.com/2110100054>)
- Local backup of the database with the ServerManager (see "ServerManager") and the image directory separately with the practice backup

You can request instructions on how to proceed from your system administrator.

## 7 Licensing

Without a valid licence file, the software can be used in the demo version. Here, 30 patients can be created in the software with full functionality. From the 30th patient a 30-day deadline applies within which further patients can be created. Once this deadline has expired, it will no longer be possible to use the software without a valid licence file.

In demo mode, VistaSoft Inspect allows unlimited acceptance checks and partial acceptance tests to be carried out even without a valid licence file. A licence is required for the second consistency check of an X-ray station and for the monitor test.



If you wish to move the server installation or single workstation installation onto a different computer, you will need to request a new licence file (free of charge).

Licensing depends on whether or not the licence file is already present:

- If the licence file is present: "7.1 Licensing with a licence file"
- If the licence file needs to be ordered: "7.2 Licensing without a licence file"

The license file contains information about the licensed packages and modules. If additional packages or modules are required later on then the licensing process will need to be repeated.

### The following packages are available:

|                         |   |
|-------------------------|---|
| VistaSoft 2D X-ray      | <ul style="list-style-type: none"> <li>– For taking 2D X-ray images (Acquisition types for the mode classes Intraoral, Panoramic and Cephalometric)</li> <li>– Acceptance and consistency checks with VistaSoft Inspect</li> </ul>  |
| VistaSoft 3D & 2D X-ray | <ul style="list-style-type: none"> <li>– For taking CBCT images (Acquisition types of the CBCT mode class)</li> <li>– For taking 2D X-ray images (Acquisition types for the mode classes Intraoral, Panoramic and Cephalometric)</li> <li>– Acceptance and consistency checks with VistaSoft Inspect</li> </ul> |
| VistaSoft Connect       | <ul style="list-style-type: none"> <li>– Acquisition and transmission of X-ray and video images at the request of a third-party application (restricted configuration, see "Limitations of the minimal Connect interface")</li> <li>– Acceptance and consistency checks with VistaSoft Inspect</li> </ul>       |
| VistaSoft Video         | <ul style="list-style-type: none"> <li>– Make a video recording (Acquisition types for the mode classes Video, Proof)</li> </ul>  |

### Modules subject to a charge:

|                                 |   |
|---------------------------------|---|
| VistaSoft Basic Dental Workflow | Interface to practice management software   |
| VistaSoft DICOM Print           | Outputting images to DICOM printers   |
| VistaSoft DICOM Starter         | Share images with DICOM systems   |
| VistaSoft MobileConnect         | Display images on the Dürr Dental imaging iPad App                                      |
| VistaSoft PatientBridge         | Interface for accepting patient data from different software (e.g. accounting software) |
| VistaSoft Trace*                | Automatic analysis and evaluation of cephalometric X-ray images                         |

\* not available in the USA and Canada

In a multi-station installation, the modules VistaSoft DICOM Starter and DICOM Print are used as a so-called floating license, which means that the license is only required if the workstation is logged in as a DICOM workstation.



**Note for Japan:** Licensing in Japan is handled via the trade.  
Contact the dealer from whom the imaging software was purchased.

## 7.1 Licensing with a licence file

1. On the right-hand side of the patient bar (see "15.1 Software interface") click on the message *Trial version: xx patient(s) and xx day(s) remaining*.  
If you cannot see this message about the trial version, you can also call up the licensing information under  > *Application*.
2. In the *Licensing* area, click *Import New Licence File...* and open the licence file.
3. Click *Restart*. Changes to the licence key only take effect after the software is restarted.

## 7.2 Licensing without a licence file

1. On the right-hand side of the patient bar (see "15.1 Software interface") click on the message *Trial version: xx patient(s) and xx day(s) remaining*.  
If you cannot see this message about the trial version, you can also call up the licensing information under  > *Application*.
2. Click on *License*.

### Entering registration data:

1. Click *Obtain New Licence...*



If a registration template file was selected during the installation then the registration data will already be pre-entered.

2. In the *Registration* window activate all the packages you wish to order under *Packages*.
3. If you are ordering modules subject to a charge, open *Modules subject to a charge* and select the modules or set the number.

4. Check whether or not all connected/installed devices are being displayed under *Serial Numbers*.



Serial number (SN) and reference number (REF) are located on the type plate of the unit.

If not all of the connected/installed devices are being displayed, click on *Update*. The list of devices is then updated.

If all of the connected/installed devices are still not being displayed properly, click on *Add Device* and enter the serial number and reference number manually.

5. Confirm that permission has been granted to use the given data for task processing and customer service purposes.  
Otherwise it will not be possible to license the imaging software.
6. Fill in at least all the required fields under *Address data*, *Dealer* and *E-mail*.  
The entries in the fields for the practice and dealer names are compared against Google Places, and the search result is displayed as a selection list. If an entry in the selection list is clicked, the data available in Google Places is added directly to the address fields (Internet connection required).

### Transmitting registration data:

1. Click on *Register via Internet* to send the registration.  
or  
Click on *Export Registration Data* to export the registration in XML format to a local directory. Send the XML file to the registration hotline (e-mail address: see > *Help*).

The registration hotline will generate a licence file from the submitted data. Depending on how busy the hotline is this may take a short time.  
The licence file will be sent to you by email.



If only VistaSoft Connect has been registered via the Internet and all the details have been verified then it will be activated automatically.

2. Click *Export registration template* to save the registration data as a template for further installations.

*Importing a license file:*

1. Navigate back via the navigation bar to *Application*.
2. In the *Licensing* area, click *Import New Licence File...* and open the licence file.
3. Click *Restart*. Changes to the licence key only take effect after the software is restarted.

### 7.3 Purchasing a licence for VistaSoft Implant & Guide

VistaSoft Implant / Guide is used for planning implants (not available in all countries, e.g. USA).

 Special system requirements apply, see "4.1 System requirements for VistaSoft Implant / Guide".

Follow the instructions below to order VistaSoft Implant / Guide:

1. Click .
2. Click *Application*.
3. Click *Acquire Licence for VistaSoft Implant / Guide...*

An Internet site will open in the standard browser where you can acquire the licence for VistaSoft Implant / Guide.

## 8 Software updates

 Licensing costs may be incurred for updating the software.

During a software update the user data (e.g. image data, patient data, device configurations, X-ray stations, licensing information and motor checks) is preserved.

 Carry out a data backup before updating the software (database and image directory).

In the case of a multi-station installation the software needs to be updated on the server and on all clients. Note the following sequence:

1. Close all clients (shut down the software in the taskbar).
2. Update the software on the server.
3. Update the software on clients.

*Update the software on the computer:*

1. Insert the data carrier with the installation package into your computer or save the downloaded installation package locally.
2. Start the file *Start.exe* in the installation folder.
3. Click *Install VistaSoft*.
4. Select the option *Change which program features are installed*. and confirm with *Next*.
5. Select the required components.  
The previously installed components are pre-selected.  
Mobile Connect: Software for connecting the Dürr Dental Imaging iPad app to the VistaSoft database

 MobileConnect cannot be combined with VistaVox / ProVecta 3D Prime.

6. Tick all the check boxes for the devices that are to be installed in order to work with them on this computer. The previously installed devices are pre-selected.  
The device drivers are automatically installed; there is no need for manual driver installation. The units can be used immediately after installation.  
When *VistaVox / ProVecta 3D Prime* is selected, the computer is checked against the system requirements. If the minimum requirements are not met, a notice is displayed and the installation can be continued with or without the additional VistaVox component.
7. In the overview, check the components and devices that are to be installed.  
If an entry needs to be changed again, click **Back** to navigate to the relevant point and change the entry.
8. Once you see the message telling you that the software is ready to install, click **Change**.  
The software is updated.
9. Click **Finish** to complete the installation.

## 9 Repairing the software

If the software installation is faulty, for example if files are missing or damaged, the installation can be repaired.

All configuration and application data is retained during the repair.

1. Insert the data carrier with the installation package into your computer or save the downloaded installation package locally.
2. Start the file *Start.exe* in the installation folder.
3. Click **Install VistaSoft**.
4. Select the option **Repair installation errors** and confirm with **Next**.
5. Click **Finish** to complete the installation.

## 10 Uninstalling the software

The VistaSoft software package essentially consists of two components:

- The VistaSoft software itself
- Database

The following conditions must be fulfilled in order to uninstall the software:

- ✓ The software must be shut down
- ✓ All patient data and the database (incl.X-ray images, etc.) must be backed up

The directories that need to be backed up may vary depending on your specific installation. You can contact our hotline to check that all patient data and the database are backed up.

The software is uninstalled via the control panel of the operating system:

1. In *Control Panel*, select the program VistaSoft.
2. Click *Uninstall*.
3. In the dialog window, select the option *Uninstall* and confirm with *Next*.  
VistaSoft will be uninstalled.

## Cybersecurity measures

The practice and its patients must be protected against cybercrime.

VistaSoft offers different functions for reducing the risk of data loss through cyberattacks:

- Digital signature of the installation packages
- User management
- Encryption of the database and data streams
- Audit log



### WARNING

#### Infection of the computer system by malware is possible

- › Take the necessary measures to protect against threats from the internet.
- › Use the functionalities of the software (e.g. user administration, encryption).



For more information, see “Cybersecurity White Paper”.  
<http://qr.duerdental.com/211010005>

## 11 Signed installation packages

Before installation or an update, it is important to ensure that software packages or updates actually come from the manufacturer itself and have not been manipulated by third parties.

For VistaSoft, Dürr Dental uses code-signing certificates. They use cryptography to ensure that they cannot be changed after being released by the manufacturer without losing the corresponding certificate.

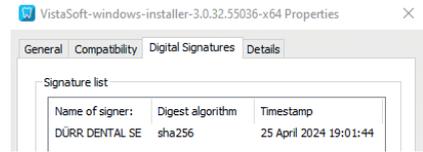
The manufacturer is shown in the file properties and when starting the installation.

### 11.1 Verifying digital signatures

Before starting an installation, you can check in the file properties whether the installation program has the correct certificate by checking the file properties of the installer:

1. Select the installation file (\*.exe) in the explorer.

2. Click *Properties* > *Digital signature*.



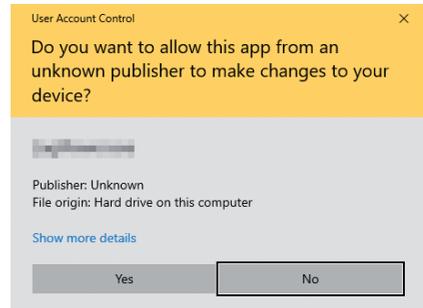
## 11.2 Checking publisher during installation

When starting the installer, a message is displayed in the standard Windows configuration. The manufacturer is specified in this message.



Fig. 1: Example message from the VistaSoft software, manufacturer DÜRR DENTAL SE

1. If the wrong manufacturer is displayed or if there is a warning about an unknown manufacturer, cancel the installation.



2. If necessary, download the installation packet again from the download centre, at [www.duerdental.com](http://www.duerdental.com).

## 12 Secure access by users

VistaSoft offers the option of creating separate user accounts for individual users and assigning them specific authorisations.

This has a range of benefits:

- Preventing unauthorised people from easily accessing patient data within VistaSoft.
- Users can be assigned specific authorisations. For example, only users with the *Dentist* role can enter a diagnostic finding, and only *Technicians* can change critical settings within the configuration of the VistaSoft system.
- Each user has his or her own password. If one is lost, this does not affect all user accounts.
- The audit log can be used to trace who has accessed important functions in VistaSoft. Example: Who initiated the export of an image? Who deleted images of patient X?



Create a separate user account for each user. This makes it easier to identify any problematic incidents.

For example, if you determine that a password has been compromised and the associated account is being exploited, you can react in a more targeted manner.

See also  *Configuration* > "28 User"

### 12.1 Password security

VistaSoft supports the use of strong passwords. When entering a new password, the system automatically assesses the security of the password currently in use. The length and complexity of the characters used play an important role here.

General tips for handling passwords:

- Use different passwords for each different individual program/service.
- Do not use any personal data as a password (e.g. Birth date of children, name of a pet). The more random (upper and lower case letters, special characters, numbers) and longer a password is, the more secure it is.
- Use a password manager (e.g. KeePass or Bitwarden) to document passwords. Do not write passwords on notes in the office or in the locker in the changing room.
- Never share your password with anyone. Employees from Dürr Dental will never ask you for your password.

### 12.2 Penalty period for incorrect user login

VistaSoft slows down incorrect login attempts. When incorrect login data (user name or password) are entered, it is not possible to log in again with this user name until the penalty period has expired. The penalty period is doubled with each further incorrect login attempt. Failed login attempts are recorded in the audit log.

## 13 Encryption

In addition to access via the software user interface, a potential cyber attacker has other ways to access patient data:

- Recording communication between individual devices in your practice (“eavesdropping”)
- Direct access to data on the hard drive

Current encryption methods implemented in the latest versions of VistaSoft make this even more difficult.

### 13.1 Encryption of data on the server

VistaSoft offers the option of encrypting data on the server’s hard drive. This means that the data are also protected if, for example, the hard drive is not disposed of properly at the end of its life and falls into the wrong hands.

Through using the latest encryption methods and modern operating systems, additional encryption can be activated on modern systems without any significant reduction in performance.



#### CAUTION

**Data cannot be restored if the key is lost**

The data are encrypted using a digital key that is generated on the server within the practice.

Dürr Dental does not have access to this key and cannot extract it from a database. If this key (consisting of certificates in file form and a password) is lost, the data are irretrievably lost.

- › Store the key (certificate and password) securely.
- › Also store the key at a secure location outside the practice (for example, on a USB stick in a safe deposit box).

The decision whether it makes sense to encrypt the data on the server’s hard drive and whether this should be activated depends on the circumstances on site.

If, for example, physical access to the server and back-up media is sufficiently protected by other measures, data encryption is probably not necessary. This also applies if appropriate functions are already activated in the operating system (e.g. Microsoft Bitlocker).

If the data on the hard drive are not encrypted, ensure that the hard drive is professionally erased or destroyed before you dispose of the server at the end of its service life.

See also:

- “68 Encrypting the database”

### 13.2 Encrypting the data streams



#### WARNING

**Data manipulation through unsecured network is possible**

- › Secure communication in the network.
- › Observe security measures for interfaces.

#### Communication between server and client

VistaSoft uses encryption technologies for communication between the central server and the individual clients, as is also the case with online banking. (TLS / HTTPS)

This largely happens automatically in the background.

The first time a client connects to the server, ensure that the client is connected to the real server and not a ‘middleman’ that has infiltrated between the server and the client (‘man-in-the-middle attack’). This requires a one-off comparison of a certificate fingerprint.

The certificate contains the following information:

- Owner: VistaSoft (device name of the server)
- Issuer: VistaSoft (device name of the server)
- Hash (fingerprint)

1. Access the certificate on the server at  > **Application > Server service settings**
2. Compare the certificate that is displayed on the client in the **Server connection** dialog window with the certificate on the server.
3. If all the information matches, click **Trust certificate**.

#### Communication between software and devices

Communication with devices from the current generation of scanners also uses the same encryption technologies, making it more difficult for unauthorised third parties to access patient data.



Ensure that you are using the latest firmware and software versions.

### Configure device password

For devices that have a password, communication between the device and the imaging software is password protected.

If there are special requirements, this password can be changed in the software. When changing the password, the new password is transmitted to the device.

If the device is reset to factory settings (e.g. after a repair), the password is also reset to the default password.

Requirements:

✓ Device connected to the software.

1. Open  > *Devices*.
2. Select the device and click *Configure device password*.
3. Enter the old password (standard password: 123456).
4. Enter the new password and repeat it in the *Confirm password* field.
5. Click *Change password*.

The password is transmitted to the device.

## 13.3 Security measures for interfaces

VistaSoft supports a range of interfaces for communicating with third-party software. The level of security from a cybersecurity perspective varies. Some legacy interfaces date back to times when the corresponding risks were negligible and therefore offer little or no protection against external influences. Modern interfaces, however, are often already secure by design because they utilise appropriate technologies.

### Tips for secure handling of interfaces

- Deactivate interfaces in the VistaSoft settings or delete any interface configurations that are no longer required.
- Be sparing with the data you provide to third-party software, e.g. anonymise data.
- Keep third-party software and VistaSoft up to date, to benefit from any improvements in security levels.
- Do not transmit any patient data via insecure media, e.g. sending as an e-mail attachment.

### Check third-party software for changes

Malicious changes to external applications can endanger data security.

Therefore, when setting up an interface to external applications, a hash value is calculated and stored centrally, when the option *Cybersecurity* under  > *Interfaces* is enabled (pre-selected). This affects the following interfaces:

- VistaSoft Implant & Guide
- VDDS to practice management program
- Other third-party software

Each time the interface is accessed, the third-party software is checked for changes using the hash value.

### Accepting changes

If the third-party software has changed, e.g. after an update, the change must be accepted before the interface can be used.

 A user with administrator rights can accept the change permanently.

1. Start the interface, e.g. export an image.  
A warning message appears, indicating that the application has changed.
2. Verify the change.
3. To use the interface once, click *Continue*.  
or  
To not use the interface, click *Cancel*.
4. **Administrator:** Once the change has been verified, click *Accept change*.  
The change is permanently accepted and the hash value is recalculated.

### Anonymising exports

To protect patient data, you can configure whether the data should be exported anonymously for each image export mode.

1. Click  > *Interfaces* > *Image export* > *Image export modes*.
2. Select the image export mode and click *Configuration*.
3. Enable the *Anonymisation of data* option.

## 14 Audit log

The audit log records important events in VistaSoft with user and time, e.g.:

- New user created
- Configuration changed (e.g. devices, X-ray stations, interfaces)
- Patient images deleted
- Images exported
- Login attempt with incorrect password

This log can be monitored and searched by users with the Administrator or Technician access level.

This makes it possible to check whether suspicious actions are being carried out and to identify any compromised user accounts.

1. Click  > *Application* > *Audit log*.

The audit log is displayed. It can be sorted and filtered.

2. To sort, click the header of the table column.
3. To filter, enter the filter criteria and click *Filter now*.

# First steps

This section describes the initial steps that need to be taken in order to use the imaging software.



### CAUTION

#### Risk of data loss due to incorrect configuration

- › The configuration must only be performed by the manufacturer or by a person/body authorized by the manufacturer to do this.

The following configurations are required in order to work with the software:

- "26.1 Create practice"
- "29 Adding devices"
- "30.1 Create an X-ray station" (only required if there is an X-ray station obligation)

The following configurations may be required (depending e.g. on the connected devices and connections to/from third-party applications) in order to use the software:

- "31.1 Configuring image acquisition types"
- "VistaSoft Inspect acceptance and consistency check"
- "25 Accelerating the image display for 3D images"
- "28.1 Create user"
- "32 Importing implant packages"
- "33 Dürr Dental Mobile Connect"
- "34 Configuring the interface to the practice management software"
- "35 Configuring the DICOM/BDW interface"
- "36.2 VistaSoft Cloud Exchange"
- "36 Configuring features"

## 15 Notes on use



Some functions in the software (e.g. configuration, acceptance check) are dependent upon the access rights of the logged in user, see also "79.1 Definition of user roles".



The manual describes all the functions of the imaging software. The availability of individual functions may vary from country to country.

Software help functions can be accessed either via the context-sensitive help in specific sections or via the start page.

### Opening the context-sensitive software help:

1. Press the **F1** key.  
The cursor changes to .
2. Click in the area for which help is required (e.g. Toolbox).  
The software help opens in a separate window in the required section (e.g. Toolbox).

### Opening the software help function via the start page:

1. Click  > .
- The software help opens in a separate window with the start page.

The "saving concept" does not require the user to actively save data (e.g. via a **Save** button). The data that has been entered or changed will automatically be saved when a flyout is closed. Active saving in a flyout is only required in special cases, e.g. during acceptance tests.

### Saving changes in the flyout:

1. Click  to close the flyout.  
or  
Use the mouse cursor to click next to the active flyout.  
or  
Switch to a higher level in the navigation bar.  
The data that has been entered or changed will automatically be saved. The flyout will be closed.

2. If you do not want to save the data that has been entered or changed, click *Discard changes*.

The changes are reset. The flyout remains open.

## 15.1 Software interface



- 1 "Menu bar"
- 2 "Patient data bar"
- 3 "Light table menu"
- 4 "Image inspector"
- 5 "Light table"
- 6 "Toolbox"
- 7 "Status bar"

 The software interface is described in the default configuration. Its appearance may differ from this, depending on how it is configured.

## Menu bar

The menu bar is generally divided into two sections:

### Left-hand section

-  Task administration (see "40 Managing tasks")
- 
-  Patient data management (see "18 Managing patient data")
- 
-  Image import and restore (see "42 Importing and restoring images")
-  X-ray image in the SmartScan workflow (see "41.2 Taking an X-ray image in the SmartScan workflow using VistaScan / ScanX")\*
- 
-  X-ray image, by acquisition types, (see "41 Acquiring images")\*
- 
- 
-  Video acquisition (see "41.7 Creating a video image with an intraoral camera")\*
-  Create 3Shape case\*

\* only visible when configured

### Right-hand section

-  X-ray report (see "47 Displaying the X-ray report")
-  Logging out a logged-in user and practice (see "48 Change practice (surgery)")
-  Configuration (see "Configuration overview")
-  Help
  -  Display help
  -  Create support file (see "50 Creating a support file")
  -  Supported devices
  -  Show Info dialog

## Patient data bar

The patient data bar is always divided into two sections:

- Left-hand section
  - Information about the currently selected patient (see "18 Managing patient data")
- Right-hand section
  - "18.5 Log out patient"

In addition, the following information is also displayed in the patient data bar where present/configured:

- Information for the active task
- Reminders if checks are due

## Light table menu

The light-table menu features various commands for the images displayed on the light table:

-  "Clear lightbox"
-  "Using a fixed/free image arrangement"
- 
-  Locking/unlocking the light table  
When free image arrangement is chosen, the position and size of the image frames on the light table can be locked (see "Using a fixed/free image arrangement").
-  "Views and layouts"
-  "Creating a screenshot of the light table"
-  "39.4 Transferring images to the practice management software" (only visible if the VDDS media interface is activated, see "77 Interfaces")
-  Repeat or undo actions
- 
-  Create user-defined image state (see "Displaying and managing the image status")
-  "Creating a screenshot of the active image"
-  "39.2 Entering the indication and diagnosis"
-  "Editing image information on the light table"

|  |  |
|--|--|
|    | "43.1 Export image"  |
|    | "46 Uploading an image to the cloud"   |
|    | "43.2 Exporting an image to third-party software"  |
|    | "43.4 Exporting an image to VistaSoft Implant & Guide"   |
|    | "43.3 Exporting an image to VistaSoft Trace"   |
|    | Open VistaSoft Trace to edit images for the logged in patient that have already been exported. |
|    | "39.3 Transferring an image to PACS"   |
|    | "45 Printing images"   |
|    | "39.6 Delete image"  |
|    | "Display/hide annotations and measurements"  |
|    | "Resetting all MPR and TSA planes"   |
|    | "Hide / show all MPR/TSA lines and the panorama curve"   |
|    |  |
|    | Opens a selection list with further commands:  |
|   | "39.5 Assigning an image to a different patient record"  |
|  | "44.2 Managing default image settings"   |

### Image inspector

The "Image inspector" is divided into three sections:

- Preview window:
  - can only be viewed if new images have been recorded
- Image archive for the patient record you are logged into:
  - All images are grouped according to the date on which they were recorded.
- Processing and filtering images from the image archive:
  - "Multiple selection"
  - "Filtering images"

 If the retention period required by law is activated (see "78.1 Configuration"), then X-ray images cannot be deleted until this period has expired.

In the **preview window**, you can open the troubleshooting via  if a device error occurs during image acquisition. Not all devices support this function. The scope of the troubleshooting options depends on the connected device.



If it is available, the following information is displayed for each image in the **Image archive**:

- 1 Blue frame, if the image is displayed on the light table
- 2 Delete image from archive
- 3 Display image information
- 4 Evaluation of the automatic image plate quality check
- 5 User's image evaluation
- 6 Derived image (screenshot)
- 7 Dose indicator
- 8 Teeth shown

If corresponding information is available, the dose indicator is displayed next to each X-ray image as a colour bar. The dose indicator serves as a guide value for optimum adjustment of the dosage parameters. This shows whether there is a risk of under or over-exposing the image, i.e. whether low or high grey values can no longer be displayed, resulting in a loss of image information. If the dosage parameters are set to the correct values, this is indicated by a green bar – if not, this is indicated by a red bar. Borderline settings are indicated with a yellow bar.

Bar red and high -> Decrease X-ray dosage or amplification of the recording system

|                     |    |   |
|---------------------|----|---|
| Bar yellow and high | -> | Slightly decrease X-ray dosage or amplification of the recording system |
| Green bar           | -> | X-ray dosage and amplification of the recording system are OK           |
| Bar yellow and low  | -> | Slightly increase X-ray dosage or amplification of recording system     |
| Bar red and low     | -> | Slightly increase X-ray dosage or amplification of recording system     |

The dose indicator cannot be displayed for the following devices/images:

- VistaPano S / ProVecta S-Pan
- VistaPano S Ceph / ProVecta S-Pan Ceph
- VistaVox S / ProVecta 3D Prime
- VistaVox S Ceph / ProVecta 3D Prime Ceph
- Video Images

Different actions are available in the **image archive** for the X-ray images and video images:

- "Display Images"
- "Editing image information in the image inspector"
- "Multiple selection"
- "Filtering images"
- "39.6 Delete image"

### Light table

All images selected in the "Image inspector" are displayed on the light table.

If you click on an image on the light table, a header appears with the image acquisition date and, if present in the image information, the X-ray parameters and the tooth. The header also includes buttons for the following actions:

 Maximize image on light table

 Minimize image on light table

 Maximize image to full screen

 Close image

With CBCT images (3D) different views are shown (e.g. volume view, panorama view, axial slice, see "3D"). The views of the CBCT image can be individually maximised. The name of the view is then also displayed in the header (e.g. axial, sagittal).



To increase the size of the light table, the "Image inspector" (to the left) and the toolbox (to the right) can be collapsed. To do this, click on the side bar.

### Toolbox

The toolbox contains the various tools and filters required for image editing (see "44.1 Toolbox"). The tools on offer differ depending on the image type.

### Status bar

The following information is displayed in the status bar:

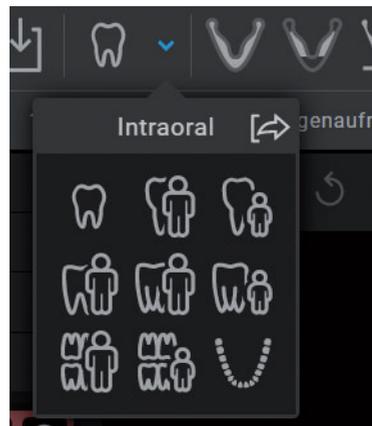
- Status messages
- Progress display
- Notifications
- Cloud connection
- Pending PACS transfers

A new status message will pulse blue-grey for around 3 seconds. During image acquisition, device status messages are also displayed.

If activities are running in the background, clicking the progress bar of the status message will open a flyout in which all currently running activities are displayed.

### General control elements

#### Flyouts



Flyouts open for various buttons (e.g. Patient, Configuration or Image Information) – as well as providing information, data can be entered or changed in these flyouts.

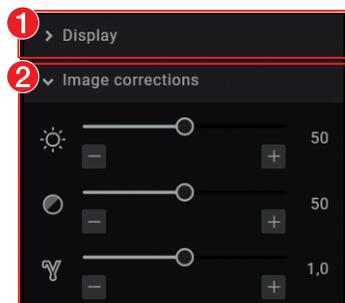
There are different ways to close the flyout again: by clicking on  or by clicking outside the flyout. The data that has been entered or changed will be automatically saved when a flyout is closed.

If a flyout has multiple levels a navigation bar will be displayed. This bar will allow you to switch directly to the higher levels.

Interfaces > Image export modes > Autoexport

If information is missing or invalid in a field, the field is outlined in orange and marked with . The inputs are checked when a flyout is closed or when you switch to a higher level of the flyout. If information is missing or values are invalid (e.g. outside a defined value range) then the flyout cannot be changed or you will not be able to switch to a higher level. You will either need to correct the inputs or discard the changes first.

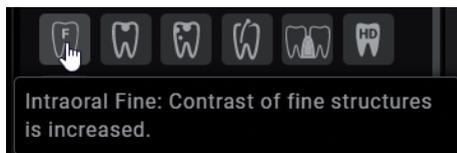
### Groupings of functions and images



- 1 Function group *View* (closed)
- 2 Function group *Image corrections* (open)

Images and functions are grouped in the "Image inspector" and in the toolbox. The groups can be opened or closed by clicking the group title.

### Quick information



Quick information with a brief explanation is saved for the buttons on the software interface. If you briefly hover with the mouse cursor over a button the quick information will be displayed.

## 15.2 User support

When certain actions are performed or certain events occur, the imaging software will display a notification. This notification will appear as a flyout in the bottom right-hand corner. After around 5 seconds, the notification will automatically disappear. The type of notification is identified by the symbol denoting one of the following categories:

-  Error
-  Warning
-  Information

In addition, a progress bar is shown in the status bar for actions that take a little time.

If a device error or warning occurs on the image acquisition device during the acquisition of images, a dialog window appears that needs to be confirmed. Device information appears as a message.

### Displaying notifications again:

 **Notifications** will only be displayed if there actually are any notifications. A notification counter (blue number) will also be displayed.

1. Click on **Notifications** in the status bar.  
All notifications that are no older than 24 hours will be displayed again in the flyout. Notifications that are more than 24 hours old can only be called up in the configuration (see "User notification").

### Delete notification:

1. Click **Delete notifications**.  
All notifications will be deleted from the list on the flyout.  
 The notifications can still be retrieved from the system configuration after they have been deleted (see "User notification").

## 16 Starting the software

The following entries are present in the Windows Start menu after installation:

### VistaSoft

|   |  |
|---|--|
| Documentation   | Opens the software manual  |
| DÜRR DENTAL SE  | Opens the homepage of Dürr Dental  |
| e-Learning  | Opens the e-Learning page on the Dürr Dental homepage                                |
| Download remote maintenance   | Starts the download of the TeamViewer software for remote maintenance by Dürr Dental |
| Download pcvisit  | Starts the download of the pcvisit software for remote maintenance                   |
| ServerManager<br>(only for single-station and server installations) | Launches the software for creating data backups                                      |
| Create file for Support   | Creates a support file   |
| VistaSoft   | Launches the imaging Software  |

### VistaSoft Inspect

|                   |   |
|-------------------|---|
| VistaSoft Inspect | Launches the software for acceptance and consistency checks |
|-------------------|---|

The following links are provided on the desktop:



VistaSoft



VistaSoft Inspect



e-Learning

There are two ways to launch the software:

- By clicking on the icon on the desktop
- Via the Start menu: **Start > All Programs > VistaSoft > VistaSoft**

If the software is already running in the background, it can be opened.

### Starting the software:

1. Double click the icon on the desktop.  
or  
Select the item in the start menu.

### Open the software (software is already running in the background):

1. Use the right mouse button to click the software icon in the task bar.
2. Click **Open software**.  
VistaSoft is launched.

### Registering the practice and users:

1. If user management is enabled, enter the user and password.
2. If multiple practices have been created, select the practice.

3. Click *Login*.



**CAUTION**

**Risk of data loss due to incorrect configuration**

- › The configuration must only be performed by the manufacturer or by a person/body authorized by the manufacturer to do this.

The following configurations are required in order to work with the software:

- "26.1 Create practice"
- "29 Adding devices"
- "30.1 Create an X-ray station" (only required if there is an X-ray station obligation)

The following configurations may be required (depending e.g. on the connected devices and connections to/from third-party applications) in order to use the software:

- "24 Changing the display language"
- "31.1 Configuring image acquisition types"
- "25 Accelerating the image display for 3D images"
- "28.1 Create user"
- "32 Importing implant packages"
- "33 Dürr Dental Mobile Connect"
- "34.2 Configure VDDS-media interface to practice management program"
- "35 Configuring the DICOM/BDW interface"
- "36.2 VistaSoft Cloud Exchange"
- "36 Configuring features"

## 17 Closing the software

If the main window of the software is closed, the software will continue to run in the background. This allows certain actions, e.g. tasks from VistaSoft Connect, to continue to be processed. The software can be shut down in the taskbar.

### *Closing the software:*

1. Close the main window.  
Changes are saved and the patient and practice are logged out.

### *Shutting down the software:*

1. In the taskbar, use the right mouse button to click the software icon.
2. In the context menu, click **Shut down**.

## 18 Managing patient data



### CAUTION

**Personal injury is possible due to wrong assignment of image data to a patient**

- › Check the right assignment of the image data (e. g. during image import, change of patient data new assignment of image data to a patient).
- › Observe the information displayed in the software.

Every image that is managed in the software is assigned to a patient.

To create or import new images, you must be logged into the record for the patient they relate to (see "18.3 Searching for and logging into a patient record").

In the patient data management section, there are two ways of managing patient data:

- The patient data can be directly managed in the software itself (see "18.1 Creating a patient record")
- The patient data can be imported from the practice management software (see "18.2 Importing patient data")

### 18.1 Creating a patient record

Once the software has been launched, the **Patient Records** flyout is automatically opened and a new patient record can be created.

1. To open the flyout, click  in the menu bar.
2. Click  on the right-hand side of the search field.

The flyout for creating a new patient record will open.



Fields marked with  are mandatory fields and must be completed.

The mandatory fields can be selected in the configuration.

3. Fill in all fields or at least the mandatory fields.

4. Click  to close the flyout.

The patient record will be created and you will be automatically logged into it. If a patient is already logged in, you will automatically be logged out of this patient's record when you log into another patient's record. Here, all image acquisitions must be finished and all mandatory information for the images must have been entered.

## 18.2 Importing patient data

Requirements:

- ✓ Import directory for patient data from a practice management program configured (see "77 Interfaces")
- ✓ No image acquisition is running on the workstation where the patient is to be logged in (X-ray, video)

1. Save the patient data from the practice management program to the import directory (for details, see instructions of the practice management program).

If a patient is not logged-in in the imaging software, the patient will be registered automatically.

If an other patient is already logged-in in the imaging software, a notification will appear and the button *Patient record awaiting log-in* will appear in the patient data bar.

2. To log-in the patient whose data has been sent from the practice management program, click *Patient record awaiting log-in* in the patient data bar.

If a patient is already logged in, this patient will be logged-out automatically when the other patient is logged in. Here, all image acquisitions must be finished and all mandatory information for the images must have been entered.

## 18.3 Searching for and logging into a patient record

In order to create or import images, you must be logged into a patient record.

The *Patient records* flyout will open automatically when the software is launched.

If a patient is already logged in, you will automatically be logged out of this patient's record when you log into another patient's record. Here, all image acquisitions must be finished and all man-

datory information for the images must have been entered.

The list *Last patient logged in* shows the last 10 patients who were logged in (with the most recent log-in date first). In the case of multi-station installations the list is global across all workstations. The list of last logged-in patients can also be deactivated, see "73.2 Workstation".

The search values in the patient data can be limited to patient ID and name in the selection field. Otherwise, all fields of the patient data are used in the search.

1. Click .

The *Patient records* flyout will open.

2. If the patient record you are looking for has been logged into very recently, you can select it from the *Recently viewed patient records* list.  
or

3. Enter patient details into the search field (e.g. patient number, name or date of birth). To enter numbers with the screen keyboard, click .

The search results will be displayed, either immediately or after pressing the enter key or , in the list below the search field (depends on the configuration, see "78 Practices").

They can be sorted by clicking on the column head.

4. Select the patient record you require in the list and click  to log in.

Alternatively you can open the patient by double-clicking the list entry.

You are now logged into the patient record. Relevant data for the patient is displayed in the patient data bar. The image archive of the patient appears in the "Image inspector".

## 18.4 Editing patient data



If the patient was imported from a practice management program via the VDDSMedia interface or via patimport.txt, or via the DICOM interface, then it will not be possible to edit all the patient data.

Requirements:

- ✓ You are logged into the patient record

1. Click .

The *Patient data* flyout will open.

-  Fields marked with  are mandatory fields and must be completed. Different fields may be mandatory fields, depending on the configuration.

2. Change the patient data you want to amend.

## 18.5 Log out patient

If the patient imaging is complete, you can log out from the patient's record.

When you log into another patient's record, you will automatically be logged out of the previous patient's record.

Requirements:

- ✓ The patient imaging must be complete.
- ✓ All of the mandatory information for the acquired images has been entered.

1. Click  in the patient data bar.

## 19 Importing X-ray images

Requirements:

- ✓ You are logged into the patient record
- ✓ No other image acquisition is in progress (X-ray or video)

1. In the menu bar click the desired image acquisition type (e. g.  for the preferred intraoral image).

Via  you can call up further acquisition types that belong to the grouping.

The imaging types in the "favourites" may differ depending on the configuration (see "31 Acquisition types").

-  Depending on the configuration of the image types (see "75 Acquisition types"), the software is either immediately ready for X-ray acquisition, or you will first need to select the acquisition source and the image acquisition mode.

2. Select the acquisition source and image acquisition mode and enter any X-ray parameters as required (if they are not already defined in the configuration).

3. Produce or import an X-ray image.

X-ray image acquisition will now start. The preview window opens up.

The status or a preview of the image is shown in the preview window.

The image is automatically saved.

4. Produce or import further X-ray exposures if required.

5. Once you have finished recording the last image, click **Finish imaging**.

The preview window is closed. All acquired images are transferred to the image archive of the logged on patient. The newest images appear at the top of the image archive. From there, the images can then be opened on the light table and edited (see "22 Image editing"). Similarly, indications can be entered via the functions in the light table menu, or the image information can be edited (see "39 Managing images").



With the following devices, the X-ray parameters are automatically transferred from the device and cannot be altered:

- VistaVox S / ProVecta 3D Prime
- VistaVox S Ceph / ProVecta 3D Prime Ceph
- VistaPano S / ProVecta S-Pan
- VistaPano S Ceph / ProVecta S-Pan Ceph

6. If the X-ray parameters have not been entered or preselected in the configuration (see "76.2 Parameters") and the function **X-ray parameters mandatory** is activated (see "78.1 Configuration"), then the X-ray parameters will need to be entered separately for each image under .

If the X-ray parameters have been entered or they are preselected in the configuration, the X-ray parameters are automatically adopted for the first imported image. If the preselected parameters are also to be applied to the other images, go to **Image information** for each image and click the button **Apply X-ray parameters**.

In addition, where applicable you should also select the tooth (multiple selection is possible) under **Dental notation system** and select the corresponding image acquisition type under **Image acquisition type** for which the image was created. By placing the marker in the dental notation system the image acquisition type is also automatically selected if it has not already been selected beforehand.

## 20 Creating a video image

A separate imaging window will open for video images. The imaging window is made up of the preview window and the image inspector.

If the camera is active, the live image from the camera can be seen in the preview window. If the camera is not active an animation is shown in the preview window.

If the symbol is displayed in the upper right corner of a CamX Spectra image, the boost filter is active (see also "73.9 Boost filter").

Only the currently acquired images are displayed in the image inspector. When the imaging window is closed the images are transferred to the image archive of the patient.

Requirements:

- ✓ You are logged into the patient record
- ✓ No other image acquisition is in progress (X-ray or video)

1. Click in the menu bar.

The image acquisition window opens.

If a camera has already been preselected in the configuration (see "74.2 VistaCam / CamX") then the video preview can be seen. If no camera is preselected then a device needs to be selected.

If the camera is not active an animation is shown in the preview window.

2. If the video preview is not visible, select the device in the image bar.
3. If an animation is shown in the imaging window, activate the camera (e.g. take it out from the handpiece holder or attach an interchangeable head).
4. Click to expand the video image to full screen if necessary.
5. Depending on the camera or the interchangeable head used, the video settings for the preview can be adjusted via (see "Adjusting the video settings").
6. If the camera supports the live caries filter then the video preview can be switched between prophylaxis view and caries view .

7. Position the camera and take a freeze-frame shot using the capture ring or by clicking .

The acquired images are automatically saved for the logged-in patient and displayed in the image inspector.

For image proofs, select the caries filter  or the prophylaxis view .

If there is too much ambient light when a Proof or Spectra image is being recorded,  will be displayed. The caries filter cannot be used with this image.

8. To view an image again in the preview window, select the image in the image inspector.
9. Delete images that are not required by clicking .
10. Enter image information via  (only the dentition type and the dental notation are available in the image inspector). The image information can be edited or an Indication can be entered later via the functions in the light table menu (see "39 Managing images").
11. Use the capture ring or click  to return to the video preview.
12. Once you have finished recording the last image, click **Finish imaging**.  
The imaging window will be closed. All images are displayed in the image archive of the logged-in patient. From there, the images can then be opened on the light table and edited (see "44.1 Toolbox").

## 21 Display Images

Requirements:

- ✓ You are logged into the patient record
- ✓ The patient images are in the "Image inspector"

*Displaying one or more images on the light table (multiple selection closed):*

1. Click to select the relevant preview image in the "Image inspector".  
or  
Click the preview image in the image inspector and drag and drop it to the light table.  
The image will be displayed on the light table and highlighted with a blue frame in the "Image inspector".  
Multiple selected images will be displayed next to and above and below one another on the light table, and they are highlighted with a blue frame in the "Image inspector".  
The available space on the light table will be divided up dynamically between all of the images.

*Displaying multiple images on the light table (multiple selection open):*

1. In the "Image inspector" click on **Multiple selection** to open the function group and activate the multiple selection.
2. Select the corresponding images with a click.  
Alternatively, enable the check box in the date row to select all images for the day.  
The images are marked with .
3. Click  to load the marked images to the light table.  
or  
Click and hold your mouse button on one of the selected preview images in the "Image inspector" and then move it to the light table. (drag & drop)  
The images will be displayed next to and above and below one another on the light table. The available space on the light table will be divided up dynamically between all of the images.

*Display all of the images from a single day on the light table:*

1. Move the mouse cursor over the required date row in the "Image inspector".

The  section will appear in the right-hand part of the date row. This shows that the date row can be moved.

2. Click on the date row with the left-hand mouse button and hold.
3. Drag the date row onto the light table and release the left-hand mouse button.

All the images from the day will be displayed next to and above and below one another on the light table, and highlighted in colour in the "Image inspector". The light table will dynamically divide the available space between all the images.

## 22 Image editing

The following navigation aids can generally be used:

- Mouse wheel: zoom in/zoom out image section
- Right mouse button:  Move image section

The images can be edited using the tools from the toolbox in order to highlight details and facilitate diagnosis. The editing tools available depend on the image type.

The following types of image editing are possible on an X-ray image (2D):

- "Display"
- "Image corrections"
- "Filter"
- "Histogram"
- "Measurements"
- "Drawings"
- "Edge mask"
- "Implants"
- "Annotations"

The following types of image editing are possible on an CBCT image (3D):

- "3D"
- "Display"
- "Image corrections"
- "Filter"
- "Histogram"
- "Measurements"
- "Drawings"
- "Implants"
- "Annotations"

The following types of image editing are possible in a CBCT view (2D derived from 3D):

- "Display"
- "Image corrections"
- "Drawings"
- "Annotations"

The following types of image editing are possible on a video image:

- "Display"
- "Filter" (for proof images only)
- "Image corrections" (not for proof images)
- "Measurements"
- "Drawings"
- "Annotations"



The changes to the image will be saved alongside the original image as the **Last change**. In the light table menu, you can use the selection list to display the **Original** and the **Original image** (original with pre-selected image processing steps). See also "Displaying and managing the image status".

1. Click on the image on the light table.
2. Edit the image as required using the tools from the toolbox.
3. Either close the image on the light table or click somewhere else on the light table to save the image editing.

## 23 Export image

Various predefined image export modes and a user-defined export are available for image exporting. The predefined modes can be adapted (see "Image export modes..."). The following settings can be selected during the user-defined export (see also "Image export modes..."):

- Destination type
- File path
- File name
- Image state
- 2D/3D X-ray format or video format
- Anonymization of the data
- Embed viewer

The selected settings for the user-defined export are saved locally and can be reused during the next export.

The images can also be exported to a data carrier, see "Creating a patient medium".

1. Click  in the light table menu.  
The selection list for the image export mode will open.
2. Select the correct image export mode.  
The selected image will be exported to the defined path.  
More than one image can be exported at a time using the **Multiple selection** function in the image inspector (see "Multiple selection").

## Configuration



### CAUTION

#### Risk of data loss due to incorrect configuration

- › The configuration must only be performed by the manufacturer or by a person/body authorized by the manufacturer to do this.

The following configurations are required in order to work with the software:

- "26.1 Create practice"
- "29 Adding devices"
- "30.1 Create an X-ray station" (only required if there is an X-ray station obligation)

The following configurations may be required (depending e.g. on the connected devices and connections to/from third-party applications) in order to use the software:

- "24 Changing the display language"
- "31.1 Configuring image acquisition types"
- "25 Accelerating the image display for 3D images"
- "28.1 Create user"
- "32 Importing implant packages"
- "33 Dürr Dental Mobile Connect"
- "34.2 Configure VDDS-media interface to practice management program"
- "35 Configuring the DICOM/BDW interface"
- "27 Dürr Dental ID"
- "36 Configuring features"



Interface descriptions for connecting software and hardware from other manufacturers are available on request from [service@duerrdental.com](mailto:service@duerrdental.com).

The DICOM Conformance Statement is available in the downloads area: [www.duerrdental.com](http://www.duerrdental.com)

## 24 Changing the display language

The imaging software supports many different languages. This can be changed in the configuration.

1. Click .
2. Click *Application*.
3. Click *Workstation...*
4. In the *Display* area go to *Display language*: and use the menu to select the required language.
5. Click *Restart*.

The imaging software will be restarted so that the changes become effective.



Annotations in the toolbox can also be written in languages that are not display languages of the software. However, it may not be possible to display characters in this case.

This requires additional fonts, see "83.3 Add fonts for annotations".

## 25 Accelerating the image display for 3D images

The image display can be accelerated for a smoother display of CBCT images (3D) (depending on the graphics card in the workstation).



The GPU-accelerated display can also be activated when a 3D image is first opened.

1. Click .
2. Click *Application > Workstation* .
3. Under *Display* tick the box next to *GPU-accelerated screen display*.
4. Restart the software to activate the changes.

## 26 Practices

In the practice configuration you can create, configure and delete practices.

1. Click .

2. Click *Practices*.

### 26.1 Create practice

You will need to create at least one practice before you can work with the imaging software. This query is displayed once, when you launch the software for the first time.

1. Enter the name of the practice under *Name*.
2. Enter the complete address of the practice under *Address*.
3. Under *Database path* you can change the path under which the database is saved for the practice.
4. Under *Image path* you can change the path under which the images are saved for the practice.
5. Click *Next* to save the practice.

#### *Result:*

The practice will then appear in the list of practices.

#### **Creating a further practice**

If the workstation is used by multiple practices, these can be created and then easily changed afterwards (see "48 Change practice (surgery)").

1. Click *Create practice...*
2. Enter the information in the fields.
3. Click  or *Practices*.

The practice will then appear in the list of practices.

### 26.2 Configuring the practice

Once you have created practices they can be configured. Configuration options include e.g. settings for the retention period for X-ray images or database settings.

1. Select the practice you wish to configure.
2. Click *Configure*.  
The configuration options are described in more detail under "78.1 Configuration".

## 26.3 Deleting a practice

It is generally possible to delete practices once they have been created.

A practice can only be deleted if the following requirements are met:

- No patient data present
- No user logged into this practice
- Practice is not the main practice of a user
- At least one other practice remains in the system after deleting

1. Select the practice you wish to delete.
2. Click *Delete*.
3. Click *Delete* to confirm that you want to delete the practice.

## 27 Dürr Dental ID

If VistaSoft is linked to a Dürr Dental ID, online features (e.g., Cloud Drive) can be used. The link can be created on any workstation (server or client) with an internet connection. It is retained even if the server is briefly turned off or the internet connection is interrupted.



If the server is disconnected from the internet for a longer period of time or switched off (e.g. during holidays), the connection must be re-established or re-authentication must be carried out.

Requirements:

- ✓ Workstation on which the link is established and server (or single workstation installation) are connected to the internet

1. Click on *Link*.

A browser window opens with the login page for the online services.

2. Enter access data.  
or

Register a new account.

The status changes to *Connected*.

## 28 User

The user management controls the access of different users to the software and to the image database. The user who creates an image is documented for every image. If multiple practices have been created, different access rights can be assigned to users for different practices.

The user management is optional. An administrator password can be assigned when the software is started for the first time. This initially creates a default user with administrator rights. Alternatively, the user management can also be deactivated. If this is the case no user login window appears when the software is started.



Deactivation of the user management is a requirement for using the minimal interface of VistaSoft Connect.

There are four different user roles with different access rights:

- Administrator
- Dentist
- Radiographer
- Standard

The following functions are restricted to certain user roles. All other functions are not restricted and can also be used by a default user.

| Function   | Administrator | Dentist | Radiographer |
|--|---------------|---------|--------------|
| Edit configuration                                 | •             |         |              |
| Start ServerManager                                | •             |         |              |
| Perform acceptance test                            | •             |         |              |
| Manage default image settings                      | •             | •       |              |
| Delete patient                                     | •             | •       |              |
| Delete image                                       | •             | •       |              |
| – Light table: Delete active X-ray image           |               |         |              |
| – Multiple selection: Delete selected X-ray images |               |         |              |
| Change indication                                  | •             | •       |              |
| Image information – change image date and time     | •             | •       | •            |
| Start image acquisition                            | •             | •       | •            |
| Perform consistency check                          | •             | •       | •            |
| Import image                                       | •             | •       | •            |
| Reassign image                                     | •             | •       | •*           |
| Transfer image to PACS partner                     | •             | •       | •            |

\*Authorisation can be deactivated, see "78 Practices".

You can create, configure and delete users in the configuration.

1. Click .
2. Click *Users*.

**Result:**

The list of created users opens.

## 28.1 Create user

When the software is started for the first time, a default user (Admin) is automatically created with administrator rights.

Further users can be created.

The user management is optional. It is recommended for the following requirements:

- Documentation of the person who created the image
- Administration of user rights, e.g. for deleting images
- For multiple practices: different access rights for users for different practices

1. Click *Create user*.
2. Under *User name* enter the name (first name or initials where applicable).
3. Under *Complete name* enter the first name and surname of the user.
4. Enter a *password*. This must be at least four characters long.
5. Under *Confirm password* enter the password again.
6. Select *Main practice*.
7. Under Roles, click **+**.
8. Select *Practice name*.
9. Select a role.  
For further information, click *Display role definitions...* if required.
10. Click on *Create*.

### Result:

The user appears in the list of users.



Do not forget that the automatically created default user (Admin) also needs to be protected with a password (see "28.2 Edit user").

## 28.2 Edit user

1. In the list, click the user who is to be edited.
2. Click *Edit user*.
3. Edit the details for the user.
4. If the password is not to be changed, leave the fields *Password* and *Confirm password* empty.

5. To delete a role in a practice, click .

6. Click *Edit* to save the changes.

## 28.3 Deleting an operator



At least one user with administrator rights must be present for every practice.

1. In the list, click the user who is to be deleted.
2. Click *Delete*.
3. Confirm the deletion in the dialog window.

## 29 Adding devices

All devices that are connected with the software are displayed in the list of devices.

The following conditions must be fulfilled in order to display the devices that are connected to the software in the list of devices:

- ✓ Devices are connected to the network or to the workstation.
- ✓ Devices are switched on.
- ✓ The additional component for the corresponding device is installed (see "29.2 Installing additional components").



The list of supported devices (additional components that have already been installed) can be queried under  >  *Supported devices*.

You can sort the list of devices by clicking in the corresponding column of the header row. If a device is not yet fully configured and therefore cannot yet be used, then the row is marked with the icon .

If all of the requirements are met, then the devices can be displayed in the list of devices and configured. The connection to the software is established automatically.

1. Click .
2. Click *Devices*.

### 29.1 Connecting devices

All connected devices appear automatically in the list of devices. If this is not the case you will need to add the device manually (see "Manually adding a device").



The exact process for installation and configuration of a device is described in the assembly instructions and the instructions for use/installation of the device.



On TWAIN devices you first need to complete the device settings (see "Device settings") to use the device and in order to be able to create an X-ray station.

The tick in the check box next to *Connected* shows that the device is connected to the software.

### Manually adding a device

If a connected device is not displayed in the list of devices, then you will need to manually register it.

- ✓ The IP address of the device is known

1. Click *Register network device*.
2. Enter the IP address of the device.
3. Click *Add device*.

#### *Result:*

The system will search for the device in the network and then display it in the list of devices.

### 29.2 Installing additional components

If the additional component of a device was not installed at the same time during the initial installation process then you will need to reinstall this additional component afterwards.

To do this, proceed in the same way as for the initial installation (see "5 Installing the software").

1. During the course of the installation, select the device you wish to reinstall.
2. Perform the Installation.

The missing additional components will be reinstalled.

The device drivers are installed automatically.

## 30 X-ray stations

If there is a legal requirement for the recording of X-ray data and under *Configuration > Application* the option *X-ray stations* is enabled then you will need to create X-ray stations.

If there is no X-ray station obligation and the option *Manually create X-ray stations* under *Configuration > Application* is disabled, then the X-ray station will be automatically created in the background when a device is created, and no further configuration is required.

An X-ray station always comprises the following:

- X-ray emitter
- Image acquisition device
- Operator information

Here, e.g. an X-ray emitter can be combined with different image plate scanners or one image plate scanner can be combined with different X-ray emitters into multiple X-ray stations.

The X-ray station that is marked as the favourite in the list of X-ray stations is displayed first in the selection list when the X-ray image acquisition is started.



If an X-ray station is to be permanently assigned to an image type, this can set up in the configuration of the image type (see "31.1 Configuring image acquisition types").

In the X-ray station configuration you can create, configure and delete X-ray stations.

1. Click .
2. Click *X-ray stations*.

### 30.1 Create an X-ray station

If there is a legal requirement for recording X-ray data then the process will depend on the image acquisition device:

- "Creating an X-ray-station using the wizard"
  - VistaPano S / ProVecta S-Pan
  - VistaPano S Ceph / ProVecta S-Pan Ceph
  - VistaVox S / ProVecta 3D Prime
  - VistaVox S Ceph / ProVecta 3D Prime Ceph
- "Creating an X-ray-station manually"
  - All VistaScan / ScanX devices
  - VistaRay / SensorX
  - Cephalometric/panoramic devices without digital image receiver (e.g. with image plate)
  - TWAIN devices

If there is no legal requirement for the recording of X-ray data, the option *Create X-ray stations manually* can be deactivated in *Configuration > Application*. As a result, the X-ray station will be automatically created in the background when a device is created, and no further configuration is required (see "Automatic creation of X-ray stations").

#### Creating an X-ray-station using the wizard

1. Click *Automatic search*.  
The wizard will open.
2. Select an X-ray station from the list.  
If the X-ray station is not in the list, this means that the device still needs to be connected to the software (see "29 Adding devices").
3. Enter the name and address of the operator.  
The data for the current practice is pre-assigned to the operator information.
4. Click *OK* to close the wizard.

#### Result:

The X-ray station will be displayed in the list of X-ray stations.

The information about the X-ray emitter for the created X-ray station has been automatically generated. The X-ray station can be configured via *Configure* (see "30.2 Configuring an X-ray station").

If an X-ray station already exists with this X-ray device the system will not overwrite the configuration of the X-ray station; instead, a further X-ray station will be created.

#### Creating an X-ray-station manually

1. Click *Create X-ray station...*
2. Under *General* enter the name of the X-ray station and the information about the operator.  
The data for the current practice is pre-assigned to the operator information.
3. Under *X-ray emitter* assign the X-ray emitter with which the X-ray images will be created.  
If the required X-ray emitter is not available in the list, then you will need to create it via *Create X-ray emitter...* (see "Create X-ray emitter...").

- Under **Image acquisition device** select the device with which the X-ray images will be imported.  
The selection list will only contain the matching image acquisition devices for the X-ray emitter. If the image acquisition device is not in the list, this means that the device still needs to be connected to the software (see "29 Adding devices").
- Click  or go to the navigation bar and click **X-ray stations**.  
The X-ray station will be displayed in the list of X-ray stations.

### Automatic creation of X-ray stations

- Under  > **Application** > **Configuration** disable the option **Manually create X-ray stations**.  
One or more X-ray stations are automatically created for each device.
- If further devices are connected at a later date, go to  > **Devices** and click **Update**.  
or  
In the preview window of the image inspector go to **Select image acquisition source** and click .  
One or more X-ray stations are automatically created for each newly connected device.

## 30.2 Configuring an X-ray station

 If the configuration of an X-ray station is changed, it may be necessary to perform a new full or partial acceptance test.

- Select the required X-ray station in the list.
- Click **Configure**.
- Under **General** enter the name of the X-ray station and the information about the operator.
- Under **X-ray emitter** assign the X-ray emitter with which the X-ray images will be created. If the required X-ray emitter is not available in the list, then you will need to create it via **Create X-ray emitter...** (see "Create X-ray emitter...").

- Under **Image acquisition device** select the device with which the X-ray images will be imported.  
The selection list will only contain the matching image acquisition devices for the X-ray emitter. If the image acquisition device is not in the list, this means that the device still needs to be connected to the software (see "29 Adding devices").

### Create X-ray emitter...

If there is a mandatory X-ray station requirement, then an X-ray emitter must be assigned to every X-ray station.

- Click **Create X-ray emitter...**
- Fill in all text fields (where possible).
- Under **Category** select the category (Intraoral, Panoramic, Cephalometric) for the X-ray emitter.
- Click on the X-ray station name in the navigation bar (go back one level) to save the information.

## 30.3 Entering recommended values for X-ray parameters

Depending on the unit, you can enter recommended values for the X-ray parameters for each image acquisition type of an X-ray station. It makes the work easier if the X-ray images are always taken with the same values. The recommended values for the X-ray parameters are entered automatically for the first image, but can still be adjusted if required. Depending on the unit, should you have any further images of the same exposure, the X-ray parameters will need to be entered manually.  
The recommended values are optional. Individual parameters can also be left empty.  
If recommended values are entered they are displayed in the preview window in the recording mode.

 It is not possible to enter recommended values in X-ray stations with VistaPano, ProVecta S-Pan, VistaVox and ProVecta 3D Prime. With these units, the X-ray parameters are transferred directly.

- Select the required X-ray station in the list.
- Click **Parameters**.

3. Enter the required recommended values for each image acquisition type.
4. If one or more values are to be used for all image acquisition types, select the image acquisition type and click *Apply to all*.

### 30.4 Deleting an X-ray station

1. Select the required X-ray station in the list.
2. Click *Delete*.
3. Confirm the deletion in the dialog window.

## 31 Acquisition types

The image acquisition types define the use of the acquisition source and the acquisition mode for the different X-ray images and video recordings (e.g. Intraoral, Video).

The list of image acquisition types is predefined based on the enabled software modules (e.g. Video, X-ray). The assignment of acquisition source and image acquisition mode can be configured (see "31.1 Configuring image acquisition types").

The image acquisition types marked as *Favourite* appear as a button in the menu bar.

If the acquisition source and the image acquisition mode are fixed for an image acquisition type, the image acquisition will start immediately as soon as the image acquisition type is clicked in the menu bar.



The configuration of image acquisition types and the selection of favourites is always saved locally on the computer.

### 31.1 Configuring image acquisition types

The list of image acquisition types is predefined. For every image acquisition type you can set which acquisition source (image acquisition device) and which image acquisition mode are to be used to generate the image.

1. Click .
2. Click *Acquisition types*.
3. Select the required image acquisition type in the list.
4. Click *Configure*.
5. Under *acquisition source* select whether the device is to be manually selected for each image acquisition, or whether a specific device or the last used device should be selected.

If the image acquisition device is not in the list, this means that the device still needs to be connected to the software (see "29 Adding devices").

6. The selected mode is displayed under *Image acquisition mode*. Click ... to change the mode. The image acquisition mode depends on the selected acquisition source.

7. If the image acquisition type is to be displayed in the menu bar, tick the check box next to *Favourite*.

**Result:**

The configuration is active for the next image acquisition with this image acquisition type.

The option *Restore default settings* can be used to reset the configuration of an image acquisition mode.

## 32 Importing implant packages

Implant packages from various manufacturers can be downloaded in the download centre:



<http://qr.duerrdental.com/DLCimplants>



Not all implant packages are approved in all countries.

Consult the respective manufacturer for approval status.

Implant models from different manufacturers can be imported. The implant models can be inserted in the images schematically (see "Implants").

Requirements:

- ✓ Implant packages (\*.ddi) have been downloaded

1. Click  > *Application*.
2. With *implants* click on *Import...*
3. Select one or more implant packages and click *Open*.

The implant models are imported.



When performing a fresh import of the implant package of a manufacturer, the implant models are updated.

Implants stored in the software which are no longer available from a certain manufacturer are deleted. The previous use of these implants in the images is not changed.

## 33 Dürr Dental Mobile Connect

The software component Mobile Connect configures and connects the VistaSoft database with the Dürr Dental Imaging iPad app. The images saved in the VistaSoft database are transferred via Mobile Connect to the iPad and displayed. If various users or practices have been created in VistaSoft, they will also need to be logged into Mobile Connect.

For a multi-station installation it is sufficient to install Mobile Connect on one workstation. When Mobile Connect is active  is shown in the Windows taskbar.

To be able to use the Dürr Dental Imaging iPad app you will first need to enter the connection data in the iPad app.

Requirements:

- ✓ The software component *Mobile Connect* is also installed on the workstation (enabled during installation of VistaSoft).

1. Right-click .
2. In the context menu, click .  
The Mobile Connect help function opens.
3. Enter the connection settings in the Imaging iPad app (*IP address, IP port, user name, password*).  
If the Mobile Connect module is not licenced, a water mark is displayed on the images displayed on the imaging iPad app.
4. Activate Mobile Connect (see "7 Licensing").  
As soon as Mobile Connect module has been activated, and both VistaSoft and Mobile Connect have been started, the watermark will disappear from the images on the imaging iPad app.

## 34 Configuring the interface to the practice management software

BDW and VDDS-media are available as interfaces to the practice management program.

### 34.1 Configuring the BDW interface to the practice management software

The interface BDW (BDW = Basic Dental Workflow) is an interface between the practice management software and the imaging software. It can be used to exchange patient data and image data between the practice management program and the imaging software. The practice management software can generate tasks, which can then be called up in the imaging software.

Requirements:

- ✓ Practice management program installed
- ✓ BDW interface configured in practice management program
- ✓ Licence for VistaSoft BDW present (see "7 Licensing")

1. Click  > *Interfaces*.
2. In *DICOM/BDW*, activate the option *Basic Dental Workflow*.
3. Under  > *Practices*, enter the BDW practice ID.
4. In order to import the practice management software as a BDW partner, in  > *Interfaces* click *DICOM/BDW partner ...* > *Import BDW partner*.

All BDW partners present in the directory %PROGRAMDATA%\VDDS\_BDW will be imported. If a BDW partner has several roles (PACS, RIS), a BDW partner is created for each role.

The RIS enquiry is automatically preconfigured and can be adjusted as required.

### 34.2 Configure VDDS-media interface to practice management program

The VDDS-media interface (VDDS = Verband Deutscher Dentalsoftwareunternehmen, Association of German Dental Software Developers) is an interface between the practice management pro-

gram and the imaging software. It can be used to exchange patient data and image data between the practice management program and the imaging software. The imaging software can be opened from within the practice management program.

The interface options depend on the practice management program used. The imaging software supports levels 1 to 6 of the VDDS interface.

Requirements:

- ✓ Practice management program installed
- ✓ VDDS interface configured in practice management program
- ✓ VDDS multimedia interface activated in the practice management program (where supported)

1. Click  > *Interfaces*.
2. In *VDDS-media*, activate the option *Use VDDS*.
3. Select the referenced practice management program from the selection list.
4. If the practice management program supports level 6, activate the option. If level 6 is activated, then the updates of image data can be triggered directly in the imaging software.

## 35 Configuring the DICOM/BDW interface



The meanings of the abbreviations used here are explained under "84 Abbreviations used".

The configuration of the DICOM/BDW interface varies depending on the application.

- |                                  |  |
|----------------------------------|--|
| Recall tasks from an RIS:        | <ul style="list-style-type: none"> <li>➤ "Creating an RIS partner"</li> <li>➤ "Configuring the RIS query"</li> </ul> |
| Return images to a PACS:         | <ul style="list-style-type: none"> <li>➤ "Creating a PACS partner"</li> </ul>  |
| Print images on a DICOM printer: | <ul style="list-style-type: none"> <li>– "35.4 Configuring the DICOM printer"</li> </ul>                             |

In the DICOM/BDW interface configuration, you can create, configure and delete the DICOM partner (RIS, PACS, printer).

1. Click .
2. Click *Interfaces*.

### 35.1 Defining workstation as a DICOM workstation

In order to be able to use the DICOM functionality, at least one workstation has to be defined as a DICOM workstation.

1. In the *DICOM/BDW* area, tick *DICOM Workstation*.  
The workstation will be defined as a DICOM workstation.  
As soon as a practice is logged in on a workstation that has been defined as a DICOM workstation, a licence will be locked. Once the practice logs off, the licence will be unlocked again.

## 35.2 Configuring the RIS connection



### CAUTION

**Personal injury is possible due to wrong assignment of image data to a patient**

- › Check the right assignment of the image data (e. g. during image import, change of patient data new assignment of image data to a patient).
- › Observe the information displayed in the software.

If multiple RIS partners exist, a patient must possess the same unique patient ID for all RIS partners. Otherwise the same RIS partner would have be configured on each DICOM workstation. Examples:

- An existing RIS partner is replaced by a new RIS partner. The patients of the old RIS partner are stored in the imaging software. When the patients of the new RIS partner are imported, it is possible that different patients are assigned the same patient ID.
- DICOM workstations have different RIS partners. DICOM workstation A is linked to RIS partner A. DICOM workstation B is linked to RIS partner B. But both DICOM workstations share patient data through the imaging software. This means that different patients may have the same patient ID.

### Creating an RIS partner

DICOM communication can only take place between known workstations (DICOM partners). A list of all the created DICOM partners is displayed in the *DICOM Partners...* configuration.

1. Click on *DICOM Partners...*
2. Click on *Create DICOM Partner...*
3. Under *General Settings*, enter the connection data for the DICOM partner. The meaning of the various fields is described under "DICOM/BDW partner...". Under *Role*: you must select *RIS (Modality Worklist SCP)*.

4. Click on *Start Test*.

The imaging software will carry out a connection test and check whether the RIS system can be reached using the values entered.

An RIS query has to be configured so that tasks can be called up from the RIS (see "Configuring the RIS query").

### Configuring the RIS query

Requirements:

- ✓ At least one RIS partner has been created ("Creating an RIS partner")

1. Click on *RIS query...*
2. Under *RIS Partners*., select an existing RIS partner on which the query is to be started.
3. Enter or select your desired query parameters (see "RIS query...").

### Testing the RIS query:

1. Close the configuration.
2. Open the *Task Overview* (see "40 Managing tasks").
3. Click *RIS Query*.
4. Check whether the parameters you set result in the desired query.

### Deleting RIS partners

Requirements:

- ✓ The DICOM partner to be deleted is not being used

1. Click *DICOM/BDW Partners...*
2. Select the desired DICOM partner.
3. Click *Delete*.
4. In the dialog window, confirm with *Delete*. The DICOM partner will be deleted.

## 35.3 Configuring the PACS connection

### Creating a PACS partner

1. Click *DICOM/BDW Partners...*
2. Click on *Create DICOM Partner...*

3. Under **General Settings**, enter the connection data for the DICOM partner. The meaning of the various fields is described under "DICOM/BDW partner...". Under **Role:**, you must select **PACS (Storage SCP)**.
4. Click on **Start Test**.  
The imaging software will carry out a connection test and check whether the PACS system can be reached using the values entered.



If multiple image states of a single image are to be transferred to the PACS, one PACS partner has to be created for each image state.

5. Under **Transfer Settings**, tell the system which image state and which format are to be used for transferring the images. If you check **Anonymization of the Data:**, the data will be made anonymous prior to being transferred to the PACS. If you check **Send Automatically:**, the imaging software will transfer the recorded images automatically as soon as the task is completed. Otherwise the images must be transferred manually to the PACS (see "43.1 Export image").

### Deleting PACS partners

Requirements:

- ✓ The DICOM partner to be deleted is not being used
1. Click **DICOM/BDW Partners...**
  2. Select the desired DICOM partner.
  3. Click **Delete**.
  4. In the dialog window, confirm with **Delete**.  
The DICOM partner will be deleted.

## 35.4 Configuring the DICOM printer

### Creating the DICOM printer

1. Click **DICOM/BDW Partners...**
2. Click on **Create DICOM Partner...**
3. Under **General Settings**, enter the connection data for the DICOM partner. The meaning of the various fields is described under "Configuration".

4. Select **Role: Printer**.
5. Select the model from the selection list.  
The model name is automatically entered under **Name**.
6. Click on **Start Test**.  
The imaging software will carry out a connection test and check whether the printer can be reached using the values entered.
7. Select **Print settings**, see "Configuration".
8. Close the flyout.

### Deleting the DICOM printer

Requirements:

- ✓ The DICOM partner to be deleted is not being used
1. Click **DICOM/BDW Partners...**
  2. Select the desired DICOM partner.
  3. Click **Delete**.
  4. In the dialog window, confirm with **Delete**.  
The DICOM partner will be deleted.

### 35.5 Assigning DICOM attributes to certain acquisition types

The imaging software allows you to assign certain DICOM attributes to an acquisition type (for instance DICOM attribute *IO* to the acquisition type *Intra*). Depending on the configuration of the imaging software, this will cause acquisition to begin directly using the appropriate acquisition type. If no appropriate assignment is found, or if no assignment has been made, the standard assignment will be used:

| DICOM attribute                                    | Meaning                     | Acquisition type   |
|--|-----------------------------|--------------------|
| No DICOM attribute present                         |                             | Undefined          |
| OT   | Other type                  |                    |
| CR   | Computed Radiography        |                    |
| DX   | Digital Radiography         |                    |
| DICOM attribute is not one of the attributes below |                             |                    |
| IO   | Intra-Oral X-ray            | Intraoral          |
| XC   | External Camera Photography | Video              |
| ES   | Endoscopy                   | Video              |
| PX   | Panoramic X-ray             | Panoramic Standard |
| CT   | Computed Tomography         | CBCT               |

1. Click *Assignment of Acquisition Types....*
2. In the upper section select the DICOM attribute used for assignment.
3. In the lower section, click on +.
4. Under *Acquisition Type* select the acquisition type to which you wish to assign a DICOM attribute.
5. Under *Values* enter the DICOM attribute you wish to use for the acquisition type.
6. If you want to add further assignments, click directly on +.  
If you do not want to add further assignments, click  or *Interfaces*.

#### Delete assignment

The assignment of DICOM attributes to an acquisition type can be deleted.

1. Click *Assignment of Acquisition Types....*
2. Find the assignment in the list and click .

### 35.6 Customising the task list

When working with DICOM tasks, you can configure which DICOM attributes are to be displayed in the task list.

|         |   |
|---------|---|
| List    | The attribute is shown as a column in the task list                     |
| Details | The attribute is shown in the <i>DICOM</i> area when a task is selected |
| Hidden  | The attribute will not be displayed                                     |

1. Auf *Anzeige der Auftragsliste...* klicken.  
A list containing all DICOM attributes will appear.
2. In the *Visibility* area, select how you wish to have the DICOM attribute displayed.

## 36 Configuring features

Features contain special functions of the software as well as individually set up interfaces to external applications (third-party applications). The Feature settings are practice-specific.

1. Click .
2. Click *Features*.
3. In the *Practice* selection list, select the desired practice.

#### *Image rotation:*

1. Click *Image Rotation > Configure*.
2. Activate the *Perform image rotation automatically* option to rotate intraoral X-ray images automatically.

#### *Automatic image plate quality check:*

1. Click *Automatic Image Plate Quality Check > Configure*.
2. Select the *Activate automatic image plate quality check* option to detect image plate wear automatically.  
This function is only possible for IQ image plates in conjunction with an image plate scanner that can read the RFID chip.

#### *Nerve canal proposal:*

1. In order to have nerve canal proposals calculated (*Create a nerve canal proposal* button in the toolbox, see "Nerve canal") activate the option *Activate calculation of the nerve canal proposal*.
2. If the nerve canal proposal is to be created directly during X-ray imaging, activate the *Automatically calculate nerve canal during acquisition* option.

#### *Tooth recognition*

**Not approved in the USA. Not intended for sale in the USA and Canada.:**

1. Click *Tooth detection > Configure*.
2. In order to automatically select the teeth during intraoral image acquisitions, activate the option *Perform automatic tooth detection on intraoral images*.

Image rotation is required in addition for tooth detection. If necessary, activate the *Image rotation* feature at the same time.

## 36.1 VistaSoft AID

**Not regulatory cleared in the U.S. Not for sale in the U.S. and Canada.**

The *VistaSoft AID* feature enables the function in the toolbox (see also "VistaSoft AID").

 To use this, an internet connection and a link to a Dürr Dental ID with the corresponding subscription are required.

1. Click .
2. Click *Features*.
3. In the *Practice* selection list, select the desired practice.
4. Click *VistaSoft AID > Configure*.
5. Activate the *Use caries detection* option.

*Setting up the Dürr Dental ID and subscription:*

1. Click *Set up Dürr Dental ID* to link the software to a Dürr Dental ID.
2. If you do not yet have a subscription, click *Buy subscription* and subscribe to *VistaSoft AID*.
3. Click *Save* to enable caries detection.

## 36.2 VistaSoft Cloud Exchange

VistaSoft Cloud Exchange is a platform for sharing images with others, e. g. with colleagues, laboratories, clinics or patients.

To use this, an internet connection and a link to a Dürr Dental ID account with a corresponding subscription are required.

 VistaSoft Cloud Exchange cannot be used in all countries.

The link to a Dürr Dental ID account can be established in the configuration and the subscription can be managed.

1. Click .
2. Click *Features*.
3. In the *Practice* selection list, select the desired practice.
4. Click *VistaSoft Cloud Exchange > Configure*.

5. To link the software to a Dürr Dental ID account, click *Set up the Dürr Dental ID ...* (see also "27 Dürr Dental ID").  
 is displayed if the software is not connected to a Dürr Dental ID.

6. To manage the subscription, click *Manage subscription*.

## 36.3 VistaSoft Implant & Guide

 The VistaSoft Implant & Guide software needs to be installed separately. You can download it in the Download Centre under *www.duerrdental.com*.

A licence is required in order to use VistaSoft Implant & Guide (see "7.3 Purchasing a licence for VistaSoft Implant & Guide").

1. Click .
2. Click *Features*.
3. In the *Practice* selection list, select the desired practice.
4. Click *VistaSoft Implant & Guide > Configure*.
5. To use VistaSoft Implant & Guide, select the option *VistaSoft Activate Implant & Guide*.
6. In the field *File path* enter the directory to which the data for VistaSoft Implant & Guide is to be exported.
7. If the exported data should not contain patient information, activate the option *Anonymisation of the data before export*.

## 36.4 VistaSoft Trace

**Not regulatory cleared in the U.S. Not for sale in the U.S. and Canada.**

 The VistaSoft Trace software needs to be installed separately. You can download it in the Download Centre under *www.duerrdental.com*.

A licence is required in order to use VistaSoft Trace (see "7 Licensing").

1. Click .
2. Click *Features*.

3. In the *Practice* selection list, select the desired practice.
4. Click *VistaSoft Trace > Configure*.
5. Enable the option to activate VistaSoft Trace.

### 36.5 3Shape integration

This feature can be used to link the imaging software with 3Shape TRIOS in Dental Desktop (3DD).

1. Click .
2. Click *Features*.
3. In the *Practice* selection list, select the desired practice.
4. Click *3Shape integration > Configure*.
5. Select the option *Activate 3Shape integration*.
6. Enter the URL, username and user password for the Dental Desktop software.
7. Click *Test connection* to check the connection settings.
8. Click *Save*.

#### Result:

The following button appears in the menu bar:



### 36.6 Interface to third-party applications

This function is used to transfer images to an external application. The external application is started automatically and the image will be transferred. Whether or not the image will be loaded in the external application primarily depends on the functions available in the external application. In the configuration, you can create, configure and delete external applications.

1. Click .
2. Click *Features*.
3. In the *Practice* selection list, select the desired practice.

#### Add third-party application

1. Click *Add External Application*.

2. Under *Name of external application*:, choose any name you wish for the external application.
3. Under *Executable path*:, enter the path to the EXE file of the external application.
4. Under *Parameters*: select the parameters that are to be transferred to the external application along with the image. Multiple parameters can be selected here. You may choose from among the various parameters found in the selection list. Clicking on a further parameter will automatically add it to the existing parameters (see "80.10 Add third-party application"). As a minimum, the parameters "%PathToFile%" or "%PathToFolder%" must be selected. You can also set the image state and formats for the different image types (see "80.10 Add third-party application").
5. If the exported data should not contain patient information, activate the option *Anonymisation of the data before export*.
6. Click  or go to the navigation bar and click *Features*.

The external application will appear in the Features list.

#### Settings for SICAT Implant

To connect to SICAT Implant, use the following settings:

|                            |   |
|----------------------------|---|
| External application name: | SICAT Implant                                     |
| Executable path:           | C:\Program Files\SICAT\SICAT Suite\SicatSuite.exe |
| Parameter:                 | -input "%PathToFile%"                             |
| Image state:               | Initial view                                      |

#### Configuring a third-party application

1. Select the desired external application in the list.
2. Click *Configuration*.
3. Edit the entries you wish to change (see "80.10 Add third-party application").
4. Click  or go to the navigation bar and click *Features*.  
The change is saved.

### Deleting a third-party application

1. Select the desired external application in the list.
2. Click *Delete*.
3. Confirm the deletion in the dialog window.



## Operation

The section titled "Operation" explains how to operate the imaging software once you have got started (see "First steps" to find out how to get started).

### 37 Managing patient data

This section explains how to manage patient data.



#### CAUTION

**Personal injury is possible due to wrong assignment of image data to a patient**

- › Check the right assignment of the image data (e. g. during image import, change of patient data new assignment of image data to a patient).
- › Observe the information displayed in the software.

#### 37.1 Creating a patient record

A patient can always be created unless an image acquisition is currently in progress.

Once the software has been launched, the *Patient Records* flyout is automatically opened and a new patient record can be created.

1. To open the flyout, click  in the menu bar.
2. Click  on the right-hand side of the search field.

The flyout for creating a new patient record will open.



Fields marked with  are mandatory fields and must be completed.

The mandatory fields can be selected in the configuration.

3. Fill in all fields or at least the mandatory fields.

4. Click  to close the flyout.

The patient record will be created and you will be automatically logged into it.

If a patient is already logged in, you will automatically be logged out of this patient's record when you log into another patient's record. Here, all image acquisitions must be finished and all mandatory information for the images must have been entered.

#### 37.2 Importing patient data

The patient data can be imported individually from practice management program. If you are not logged into a patient record, you will automatically be logged into the patient's record when you import their data.

There are two ways to import patient data into the imaging software (see "77 Interfaces"):

- "Import patient data with patimport.txt"
- "Importing patient data via the VDDS media interface"

##### Import patient data with patimport.txt

Requirements:

- ✓ Import directory for patient data from a practice management program configured (see "77 Interfaces")
- ✓ No image acquisition is running on the workstation where the patient is to be logged in (X-ray, video)

1. Save the patient data from the practice management program to the import directory (for details, see instructions of the practice management program).

If a patient is not logged-in in the imaging software, the patient will be registered automatically.

If an other patient is already logged-in in the imaging software, a notification will appear and the button *Patient record awaiting log-in* will appear in the patient data bar.

2. To log-in the patient whose data has been sent from the practice management program, click *Patient record awaiting log-in* in the patient data bar.

If a patient is already logged in, this patient will be logged-out automatically when the other patient is logged in. Here, all image acquisitions must be finished and all mandatory information for the images must have been entered.

## Importing patient data via the VDDS media interface

Requirements:

- ✓ VDDS-media interface configured in the imaging software and in the practice management program (see "77 Interfaces")
- ✓ No image acquisition is running on the workstation where the patient is to be logged in (X-ray, video)

1. Send the patient data from the practice management program to the imaging software (for details, see instructions of the practice management program).  
If a patient is not logged-in in the imaging software, the patient will be registered automatically.  
If a patient from another practice is to be logged in, then the practice is changed automatically.  
If another patient is already logged-in in the imaging software, a notification will appear and the button *Patient record awaiting log-in* will appear in the patient data bar.
2. To log into the record for the patient whose data has been sent from the practice management software, click *Patient record awaiting log-in* in the patient data bar.  
If a patient is already logged in, this patient will be logged-out automatically when the other patient is logged in. Here, all image acquisitions must be finished and all mandatory information for the images must have been entered.

### 37.3 Searching for and logging into a patient record

In order to create or import images, you must be logged into a patient record.  
The *Patient records* flyout will open automatically when the software is launched.  
If a patient is already logged in, you will automatically be logged out of this patient's record when you log into another patient's record. Here, all image acquisitions must be finished and all mandatory information for the images must have been entered.  
The list *Last patient logged in* shows the last 10 patients who were logged in (with the most recent log-in date first). In the case of multi-station installations the list is global across all work-

stations. The list of last logged-in patients can also be deactivated, see "73.2 Workstation".  
The search values in the patient data can be limited to patient ID and name in the selection field. Otherwise, all fields of the patient data are used in the search.

1. Click .  
The *Patient records* flyout will open.
2. If the patient record you are looking for has been logged into very recently, you can select it from the *Recently viewed patient records* list.  
or
3. Enter patient details into the search field (e.g. patient number, name or date of birth).  
To enter numbers with the screen keyboard, click .  
The search results will be displayed, either immediately or after pressing the enter key or **Q**, in the list below the search field (depends on the configuration, see "78.1 Configuration").  
They can be sorted by clicking on the column head.
4. Select the patient record you require in the list and click  to log in.  
Alternatively you can open the patient by double-clicking the list entry.  
You are now logged into the patient record. Relevant data for the patient is displayed in the patient data bar. The image archive of the patient appears in the "Image inspector".

### 37.4 Editing patient data

 If the patient was imported from a practice management program via the VDDS-media interface or via patimport.txt, or via the DICOM interface, then it will not be possible to edit all the patient data.

Requirements:

- ✓ You are logged into the patient record
1. Click .  
The *Patient data* flyout will open.



Fields marked with  are mandatory fields and must be completed. Different fields may be mandatory fields, depending on the configuration.

2. Change the patient data you want to amend.

### 37.5 Log out patient

If the patient imaging is complete, you can log out from the patient's record. When you log into another patient's record, you will automatically be logged out of the previous patient's record.

Requirements:

- ✓ The patient imaging must be complete.
- ✓ All of the mandatory information for the acquired images has been entered.

1. Click  in the patient data bar.

### 37.6 Delete patient

Provided certain requirements are met it is possible to delete a patient. When a patient's record is deleted, their images will be deleted with it. The deleted images are moved to the recycling bin and are permanently deleted after 14 days. Within these 14 days, the images can be restored, see "42.7 Restoring recently deleted images". The patient record is then also restored with the images.

The following conditions must be fulfilled in order to delete a patient:

- ✓ The patient must not be logged in at any other workstation.
- ✓ There must be no X-ray images with a legal retention period that has not yet expired (see "78.1 Configuration").

1. Click .  
The *Patient records* flyout will open.
2. If the patient record you are looking for has been logged into very recently, you can select it from the *Recently viewed patient records* list.  
or  
Enter patient details into the search field (e.g. patient number, name or date of birth).  
The search results will be displayed immediately in the list below the search field.
3. Highlight the patient record in the list.

4. Click .

5. Confirm the popup checking that you definitely wish to delete the patient.

**Result:**

The patient's record and all their images will be deleted.

## 38 Display Images

A preview of all of a patient's images will be displayed in the "38.1 Image inspector". The images are grouped according to the date on which they were recorded.

To view or edit the images, they can be opened on the "38.2 Light table".

### 38.1 Image inspector

The image inspector comprises the image archive with all of the images of the logged-in patient and the multiple selection and filter tools. The images in the image archive are grouped according to the date on which they were recorded.

If new images are recorded, the preview window will also be displayed above the image archive. The grading is displayed if the image quality has been graded in the image information:

-  Very good
-  Acceptable
-  Not acceptable

For X-ray images acquired with an IQ / IDX image plate, the evaluation of the automatic image plate quality check (grade A to E) is displayed, see "80.2 Automatic image plate quality check".

The following actions can be performed with the images in the image archive:

- Opening the image on the light table (see "Display Images")
- "Editing image information in the image inspector"
- "39.3 Transferring an image to PACS"
- Opening, exporting or deleting multiple images together (see "Multiple selection")
- "Filtering images"
- "39.6 Delete image"

#### Display Images

Requirements:

- ✓ You are logged into the patient record
- ✓ The patient images are in the "Image inspector"

*Displaying one or more images on the light table (multiple selection closed):*

1. Click to select the relevant preview image in the "Image inspector".  
or  
Click the preview image in the image inspector and drag and drop it to the light table.

The image will be displayed on the light table and highlighted with a blue frame in the "Image inspector".

Multiple selected images will be displayed next to and above and below one another on the light table, and they are highlighted with a blue frame in the "Image inspector". The available space on the light table will be divided up dynamically between all of the images.

*Displaying multiple images on the light table (multiple selection open):*

1. In the "Image inspector" click on **Multiple selection** to open the function group and activate the multiple selection.
2. Select the corresponding images with a click.  
Alternatively, enable the check box in the date row to select all images for the day.  
The images are marked with .
3. Click  to load the marked images to the light table.  
or  
Click and hold your mouse button on one of the selected preview images in the "Image inspector" and then move it to the light table. (drag & drop)

The images will be displayed next to and above and below one another on the light table. The available space on the light table will be divided up dynamically between all of the images.

*Display all of the images from a single day on the light table:*

1. Move the mouse cursor over the required date row in the "Image inspector".  
The  section will appear in the right-hand part of the date row. This shows that the date row can be moved.
2. Click on the date row with the left-hand mouse button and hold.

3. Drag the date row onto the light table and release the left-hand mouse button.  
All the images from the day will be displayed next to and above and below one another on the light table, and highlighted in colour in the "Image inspector". The light table will dynamically divide the available space between all the images.

### Editing image information in the image inspector

Information on each of the images can be displayed and edited in the image inspector.

1. Click .  
The image information will be displayed in a flyout.  
Certain information (e.g. the dental notation system) can also be edited.  
Similarly, the image information can also be displayed and edited on the light table (see "39.1 Displaying and editing image information").

### Multiple selection

One or more images can be edited using the "Image inspector's" multiple selection tool with-out the images being open on the light table.

#### Opening multiple selection:

1. Click on *Multiple selection* to open the function group.
2. Tick the check box  next to the preview image for each image that is to undergo further processing using the multiple selection tool.  
The check box can also be activated in the data bar. This selects all images recorded on the same day.

#### Exporting images:

1. Click .  
The selection list for the image export mode will open.

2. Select the correct image export mode.  
The image-export modes can be modified (see "Configuration"). The user-defined export can be adjusted for every export, and the chosen settings are saved locally for the next use.  
The images can also be exported to a data carrier, see "Creating a patient medium".  
The selected images will be exported to the defined path.  
You can also use the light table to export a single image (see "43.1 Export image").

#### Load to light table:

1. Click .
2. Click on *Load*.  
All selected images will be loaded to the light table.

#### Delete:

1. Click .
2. A prompt will be displayed to check whether you definitely want to delete the selected images.
3. Confirm the question.  
The images are then permanently deleted.  
X-ray images that are still within their legally required retention period cannot be deleted.  
A notification message is displayed.

#### Transfer to practice management program (if the VDDS-media interface is enabled):

1. Click .  
The selected images are transferred to the practice management software.

## Filtering images

Over time, the dental practice and patient records will accumulate a large number of different images. The images can be filtered so that you can quickly find the images you require. The following filters can be applied:

|  |                     |   |
|--|---------------------|---|
|  | All images          | All images recorded for a particular patient will be displayed  |
|  | Date range          | All images recorded during the selected time frame will be displayed.   |
|  | Image types         | All images of the selected image type for a particular patient will be displayed (multiple selection possible).   |
|  | No Indication       | All images will be displayed for which no Indication is entered.  |
|  | No findings         | All images for which no diagnosis is entered will be displayed.   |
|  | Acquisition types   | All images are displayed that were created with the selected image acquisition type (multiple selection possible).  |
|  | No tooth assignment | All images are displayed for which no tooth is selected in the dental notation system, as well as the images that have no dental notation system in their properties (e.g. Pano image).   |
|  | Dental notation     | All images are displayed on which the filter selection matches the assigned teeth in the dental notation system. If several teeth are selected for the filtering, then all images are displayed that are assigned to at least one of these teeth. |
|  | Image grading       | All images with the selected image grading are displayed (multiple selection possible).   |

The filters cannot be combined with each other.

Upon a change of the filter, the software remembers the settings (except to date range). If the filter is selected again, it is pre-set already.

### Select filter:

1. Click in the selection box next to the filter symbol .
2. A dropdown list of filtering options is displayed.
3. Select a filter.  
Depending on the filter selected, further information may need to be entered.
4. Enter the information required (e. g. "Date from ... to" or "Image type").  
With **Image types**, all images highlighted in blue will be displayed. Image types that you do not want displayed must be deselected (grey).  
All images with the selected filter properties will be displayed.

### Clearing filters:

1. To clear the selected filter, select **All images**.

### Modifying filter properties:

1. Click the filter symbol (e.g.  ).  
The properties can be modified in the flyout.

## 38.2 Light table

All images selected in the "Image inspector" are displayed on the light table.



If the VDDS-media interface is enabled, then the display of an image can also be triggered via the practice management program. Here, the corresponding patient is logged in via the imaging software and the image is opened on the light table.

### Display Images

Requirements:

- ✓ You are logged into the patient record
- ✓ The patient images are in the "Image inspector"

*Displaying one or more images on the light table (multiple selection closed):*

1. Click to select the relevant preview image in the "Image inspector".  
or  
Click the preview image in the image inspector and drag and drop it to the light table.  
The image will be displayed on the light table and highlighted with a blue frame in the "Image inspector".  
Multiple selected images will be displayed next to and above and below one another on the light table, and they are highlighted with a blue frame in the "Image inspector".  
The available space on the light table will be divided up dynamically between all of the images.

*Displaying multiple images on the light table (multiple selection open):*

1. In the "Image inspector" click on **Multiple selection** to open the function group and activate the multiple selection.
2. Select the corresponding images with a click.  
Alternatively, enable the check box in the date row to select all images for the day.  
The images are marked with .

3. Click  to load the marked images to the light table.  
or  
Click and hold your mouse button on one of the selected preview images in the "Image inspector" and then move it to the light table. (drag & drop)

The images will be displayed next to and above and below one another on the light table. The available space on the light table will be divided up dynamically between all of the images.

*Display all of the images from a single day on the light table:*

1. Move the mouse cursor over the required date row in the "Image inspector".

The  section will appear in the right-hand part of the date row. This shows that the date row can be moved.

2. Click on the date row with the left-hand mouse button and hold.
3. Drag the date row onto the light table and release the left-hand mouse button.

All the images from the day will be displayed next to and above and below one another on the light table, and highlighted in colour in the "Image inspector". The light table will dynamically divide the available space between all the images.

### Using a fixed/free image arrangement

If multiple images are displayed on the light table, different options are available for how the images are displayed.



Fixed image arrangement (default setting):

The image frames are arranged on the light table based on a fixed grid depending on the number of image frames.



Free image arrangement:

The images can be freely positioned on the light table. The size of the image frames can be freely scaled.

 can be used to lock the position and size of the image frames on the light table.

 can be used to freely scale and position the image frames on the light table.

The last selected image arrangement mode is retained when the patient is changed or the software is closed and reopened.

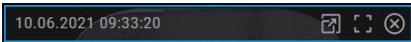
1. Click  to switch to the free image arrangement setting on the light table.
2. Click  to switch to the fixed image arrangement setting on the light table.

### Maximise image

If more than one image is open on the light table, these will be displayed next to and above and below one another. Each of these images can be maximised for a detailed view.

#### Maximize image on light table:

1. Click the required image to select it.  
The image bar will appear at the top edge of the image.



This shows that the image is active.

2. Click .  
Alternatively, you can also double-click the image to maximise it.  
The image will be expanded to fit the light table.
3. To reduce the size of the image, click .  
Alternatively, you can also double-click on the image to minimise it.  
The image will be displayed in the original size again, next to the other open images.

#### Maximize image to full screen:

1. Click .  
The image will be enlarged to fill the screen.
2. Exit full-screen mode by pressing the **Esc** key on your keyboard.  
The image will be displayed in the original size again, next to the other open images.

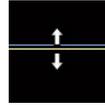
### Resizing views (only for CBCT)

The views of a CBCT image are opened in a default size. You can resize them as you wish to suit the particular application and your personal preferences. View sizes are not saved. When

opened the next time, the CBCT image will again appear in the default size.

#### Resizing views horizontally:

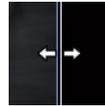
1. Move your mouse over the horizontal view divider.



2. Press and hold the left mouse button to resize the view.

#### Resizing views vertically:

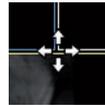
1. Move your mouse over the vertical view divider.



2. Press and hold the left mouse button to resize the view.

#### Resizing views horizontally and vertically at the same time:

1. Move your mouse over a point where the horizontal and vertical view dividers meet.



2. Press and hold the left mouse button to resize the view.

### Enlarging and moving image details

The whole image is displayed when it is opened on the light table. To view details, the image can be magnified (zoom). The image detail displayed can be moved around within the frame.

1. Click on the required image on the light table to select it.
2. Adjust your view of the image detail using the zoom tools in the toolbox (see "Display") or by scrolling with the mouse wheel.
3. To move the image detail displayed, click and hold the image with the right-hand mouse button and drag it within the frame.

## Rotating the surface scan

The surface scan can be rotated around its centre point.

1. Press and hold the left mouse button while rotating the surface scan.

### Result:

The current view is saved as image status **Last Change** and displayed as a preview image in the image inspector.

## Editing image information on the light table

Information on each of the images can be displayed and edited on the light table.

1. Click  **Image information** in the light table menu (see "Light table menu").

The image information will be displayed in a flyout.

Certain information (e.g. the dental notation system) can also be edited.

Similarly, the image information can also be displayed and edited in the image inspector (see "Editing image information in the image inspector").

## Close image

1. Click the image on the light table.
2. Click .

### Result:

The image is removed from the light table. The editing of the image is saved. The current view is saved as image status **Last Change** and displayed as a preview image in the image inspector.

## Clear lightbox

If there are too many images open on the light table, or if the light table needs to be cleared to make way for new images, you can make all the images disappear from the light table.

1. Click  in the light table menu.

All images will disappear from the light table. The changes that have been made will be saved for each image.

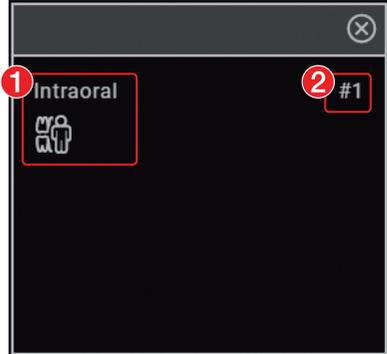
## Views and layouts

With  **Views and layouts** you can display multiple images from a patient in a certain layout on the light table. The views are saved for the patient.

Various predefined layouts are available for creating the views.

A layout defines the number, size and position of the frames on the light table. The pre-defined layouts can be edited, and additional layouts can be created. In the case of multi-station installations, the layouts are saved centrally and are available from all workstations.

Image properties can be assigned to the frames of a layout (image type, acquisition type, teeth). The image properties are shown in the empty frames of the layout.



- 1 Image properties of the frame (in this example: Image type = Intraoral, Acquisition type = Intraoral bite wing adult)
- 2 Frame number

The frame numbers indicate the order in which the frames are filled. If an image series is started (see "41.9 Creating an image series") then the newly created images are inserted directly in the order of the frames into the view.

If the image alignment of the newly created image does not match the alignment of the frame, the image is rotated to the right. (Only if the **image rotation** feature is deactivated).

If the option **Fill frame with current images** is activated, then when a new view is created the existing images are assigned to the frames with the corresponding image information.

### Creating views

The views are created on the basis of layouts, which predefine the number, position and properties of the images by using frames.

The frames of a view can be filled with existing images from the image inspector or with newly

created images (see also "41.9 Creating an image series").

1. Click .

The **Views** flyout opens.

2. If the images present in the image inspector are to be automatically assigned, enable the option **Fill frame with current images**.

3. Under **New view** click the required layout.

The view is loaded onto the light table.

If the option **Fill frame with current images** is activated, images that already exist in the image inspector are inserted with the corresponding image information into the frames. If the option is deactivated, the frames of the view are empty and can be filled either with existing images from the image inspector or with newly created images.

4. In the image inspector click on the image you wish to be displayed in this frame. Or drag & drop the image to the intended frame.

Alternatively, create a new image.

The image is displayed in the frame and the next frame is then active.

5. Assign the next image from the image inspector to the frame or create the next image.
6. To delete a frame from the view, click in the empty frame on .
7. Continue the process until all of the frames have been filled with the images.

The view is saved with the date and layout name if one of the following events occurs:

- Clear the light table 
- Load a different or new view
- Log out patient
- Log out practice
- Close the software

### Managing views

Available views can be loaded on the light table, edited and deleted.

#### Loading an existing view to the light table:

1. Click .

The **Views** flyout is opened.

2. In **Available views** click the required view.

#### Changing the view:

1. To replace an image in a frame, drag & drop the new image from the image inspector into the frame.

2. To remove an image from the view, click  in the frame.

The frame is retained and can be filled with a different image.

3. To delete the frame from the view, click  in the empty frame.

The frame is deleted from the view.

#### Saving the view and closing:

1. Click .

or

Load a different view or a new view.

or

Log out the patient or practice.

or

Close the software.

#### Delete view:

1. Click .

2. In the required view, click .

The view is then deleted. The images used in the view are retained.

#### Creating a new empty layout

1. Click .

The **Views** flyout opens.

2. Click **Empty layout**.

The empty light table is displayed. In the toolbox the **Layout** group is open.

3. In the toolbox enter the layout name in the field.

4. Click **Add frame**.

An empty frame is created with a sequential number on the light table.

5. To change the size of the frame, move the mouse pointer over the edge of the frame. When the required scaling arrow () is displayed, press the left mouse button and hold the button while dragging the edge of the frame to the required size.

6. To move the frame, left-click on the header row of the frame. Hold the mouse button pressed () and drag the frame to the desired location, then release the mouse button.
7. To assign image properties to the frame (image type, acquisition type, teeth, etc.), click .  
The window *Frame settings* opens.  
With the aid of these frame settings, when a new view is created the option *Fill frame with current images* can be used to assign the corresponding images.
8. Assign the image properties and click *OK* to save.
9. Create additional frames and arrange them on the light table.
10. To redefine the numbering (i.e. the sequence of the image series), click on *Re-sort frame*. Click the header bars of the frames in the required order.  
The new numbering is displayed in the header bars of the frames.
11. Enter a name for the new layout in the *Name* field.  
The name of the layout is visible in the *View* flyout. If no name is entered, an automatic name is assigned (*New layout name*).
12. To save the layout, click *Apply*.  
The layout is saved and closed.

#### *Creating a new layout on the basis of the current arrangement on the light table*

1. Click .  
The *Views* flyout opens.
2. Under *Create new layout* enter the name in the field.
3. Click *From light table*.  
The layout is added under *New view* and can be selected immediately in order to create a new view.

#### *Editing layouts*

1. Click .  
The *Views* flyout opens.

2. Under *New view* click  for the layout.  
The layout is opened on the light table.
3. Edit the frame and frame settings.
4. If required, change the name of the layout.
5. Click *Apply*.

The layout is saved and closed.  
Any changes made to an existing layout will only have an effect on future views. If views have already been created with this layout, these views will remain unchanged.



If the predefined layouts have been changed, these changes can be undone via *Restore default layouts*.

#### *Export/import all layouts*

All newly created layouts and modified predefined layouts can be exported and imported to another workstation.

#### *Export all layouts:*

1. Click .  
The *Views* flyout opens.
2. Click *Export all layouts*.  
The layouts are saved as the file *Exported Layouts.json* on the desktop.

#### *Import all layouts:*

1. Click .  
The *Views* flyout opens.
2. Click *Import all layouts*.
3. Select file.
4. Click *Open*.  
The layouts are available in the selection *New view*.  
If a layout with the same name already exists, "(1)" is added to the name of the newly imported layout, for example.

#### *Creating a screenshot of the light table*

If multiple images are open on the light table, it is possible to create a screenshot of the entire light table.

The screenshot contains all images as displayed on the light table (incl. comments), as well as empty frames if applicable. The image bars of the

individual images are not included in the screenshot.

The screenshot is saved in the image inspector under the current date and is marked with  (derived image). It can be selected in the image inspector and opened / exported on the light table.

1. Click .

A screenshot is created of the complete light table and saved with the current date.

### Displaying and managing the image status

Depending on the image processing, certain image statuses are saved for every image. These can be called up for each image.

The following image statuses can be saved for the image:

- **Last change:** Last changes made to the image using the editing tools in the toolbox; this is automatically saved when the user switches to a different image state, when the image is removed from the light table or when the patient is logged out.
- **Initial view:** Original image, configured image processing from the X-ray station has been applied (see "76.3 Image processing")
- **Original:** Image from the device including normalisation (e.g. inversion, mirroring)
- **Diagnosis:** Image view saved with the diagnosis
- **User-defined image state:** View is saved with date and time, can be deleted again.

### Show image status:

1. Select the required image status from the selection list.  
The saved image status is displayed on the light table.

### Save user-defined image state:

1. Click .  
The view is displayed with date and time in the list of image states.

### Editing the name of a user-defined image state:

1. Click .  
You can edit the date and time. Free text is permitted.

### Delete user-defined image state:

1. Click on the selection list.  
The list with the saved image states appears.
2. In the list click  next to the user-defined image state.

### Creating a screenshot of the active image

You can create a screenshot of an image that is open on the light table.

The screenshot is saved in the image inspector directly under the original image and is marked with . It contains only the representation of the image that was shown on the light table at the time when the screenshot was taken. It is assigned the same acquisition date as the original image. The image information is also copied across.

The screenshot can be selected in the image inspector and opened on the light table.

1. Click .

A screenshot of the image currently open on the light table is created and saved.

### Display/hide annotations and measurements

Depending on whether or not annotations or measurements have been added to an image you can hide or show them.

The first click hides the added annotations and measurements. A second click shows them again.

1. If annotations or measurements are present, click .  
The annotations and measurements are hidden.
2. Click .  
The annotations and measurements are shown again.

### Resetting all MPR and TSA planes

If the slice planes in a CBCT image have been changed, then they can be accurately restored to their axial, sagittal and coronal orientations. With panoramic views and TSA views the axial slice plane is restored to the plane on which the panoramic curve was originally defined.

1. Click .

## Hide / show all MPR/TSA lines and the panorama curve

In CBCT recordings, working in the lightbox menus, the interfaces in the MPR and TSA slices and the Panorama view can be shown and hidden. The slice planes are always displayed in the volume view.

1. Click  to fade in the lines.
2. Click  to display the lines.

## 39 Managing images

The following different kinds of information can be saved for each image:

- Image information (e.g. patient, dental notation system, image size, X-ray dose, device)
- Diagnosis (indications, comments)

The image information can be displayed and edited.

### 39.1 Displaying and editing image information

The image information can be displayed via the "Image inspector" or the light-table menu.

The image information is split into different areas depending on the image type:

**Dental notation** Assignment of the image to one or more teeth

The version of the dental notation system (FDI, UNS, Palmer) is defined in the configuration (see "73.6 Dental notation").

When the *tooth recognition* feature is enabled (see "80.9 Tooth detection"), the visible teeth in intraoral images are automatically selected. The selection needs to be checked. With the dental notation  **Adult teeth**, the function *Detect tooth* can be used to carry out automatic tooth detection again.

**X-ray parameters** Properties of the X-ray image  
Depending on the image acquisition device, the values are entered manually or transferred by the unit. The X-ray parameters can be defined as mandatory fields (see "26.2 Configuring the practice"). Then they need to be filled in before a patient can be logged out or an image can be exported.

**Acquisition type** Information about the image acquisition mode and acquisition source of an X-ray image that are used  
The acquisition type is preselected based on the selection in the dental notation system.

**Image grading** The quality of an image can be rated as *Very good*, *Acceptable* or *Not acceptable*.

|               |   |
|---------------|---|
| Findings      | Documentation of the diagnosis<br>Once the flyout has been closed the diagnosis can no longer be changed, but the comments can still be changed. A diagnosis view of the image is saved along with the diagnosis. |
| Image details | Details about the image cannot be changed.  |

 The X-ray parameters can be changed as long as the patient is logged in and the image has not been exported. When you log out from the patient or export the image, the X-ray data is finally saved and can then no longer be changed.

In the case of images created with VistaPano / ProVecta S-Pan or VistaVox / ProVecta 3D Prime, the parameters entered by the device (e.g. X-ray parameters, acquisition type or restoration) cannot be changed.

1. Select an image in the "Image inspector".  
or  
Click on the image on the light table.
2. Click  in the light table menu or click the preview image in the image inspector.  
The *Image information* flyout will open.
3. Change the data as required.  
Under *Image acquisition type* you can only choose the image acquisition types for the mode class selected during creation of the image.  
If the image acquisition type is changed then the saved recommended values for the X-ray parameters can be applied.
4. Under *Dental notation system* click on one or multiple teeth to select them.  
To select more than one tooth at the same time, click on a tooth and keep the mouse button pressed. Then move the mouse cursor over more teeth while keeping the mouse button pressed.  
To cancel the marking of a tooth, click on the tooth again.  
The dental notation system can be switched between *primary teeth* and *adult teeth*.



5. Click  to close the flyout.

 If the image has been matched to the wrong patient's record, it can be reassigned (see "39.5 Assigning an image to a different patient record").

## 39.2 Entering the indication and diagnosis

A diagnosis, comprising indications, diagnostic findings and comments, can be added to each image.

A diagnosis view of the image is saved along with the diagnosis, and can be retrieved via the light table menu (see "Light table menu").

The entry in the field *Diagnosis* is saved with the user name and can no longer be changed once the flyout is closed.

The indication and comment can still be edited.

 In the *Diagnosis* flyout, you can activate the option *Automatically open this window for this image*. In this way, when the image is opened on the light table, the *Diagnosis* flyout is always displayed as well. The setting applies only to this image and can be changed at any time.

1. In the light table menu, click  or .
- The Flyout *Diagnosis* or *Image information* will open.
2. Enter the indication, diagnosis and comments.
  3. Close the flyout.
  4. If the diagnosis has been entered in the *Diagnosis* field, confirm the diagnosis with *Save* in the dialog window.
  5. If the logged-in user does not have write access rights for the field *Diagnosis*, get another user who does have the corresponding authorisation level to authorise the entry in the dialog window (see also "79.1 Definition of user roles").
  6. Click *Discard* to close the flyout without saving.
  7. Click *Cancel* to return to editing the flyout.

### 39.3 Transferring an image to PACS

This function makes it simple to transfer images to a PACS. This requires the PACS to be configured (see "35.3 Configuring the PACS connection").

For images acquired without an active DICOM task (but with defined RIS partner and RIS query), the following options are available for transferring them to the PACS:

- Send images without task data to PACS
  - Send images later via the pending transfer list
  - Assign images to RIS task and send to PACS
- Multiple images can be exported using the *Multiple selection* function in the image inspector (see "Multiple selection").

If the transfer to PACS is unsuccessful, the transfers will be saved in a list (see "Pending transfers to PACS partner").

*Send images without task data to PACS:*

1. Click  in the light table menu.
2. Select desired PACS.
3. Click on *Send Without Task Data to PACS*.  
The image is sent to the PACS without reference to data so that it can be integrated into the clinical workflow. The image is not assigned to any specific examination, requested procedure, task number or other data provided by the RIS.

*Send images later via the pending transfer list:*

1. Click  in the light table menu.
2. Select desired PACS.
3. Click on *Add to Pending Transfers*.  
The image will not be sent at this time. It will be added to the list of pending transfers and sent at a later time, e.g. when the RIS is again active and a corresponding RIS task can be assigned.

*Assign images to RIS task and send to PACS:*

1. Click  in the light table menu.
2. Select desired PACS.



#### CAUTION

**Personal injury is possible due to wrong assignment of image data to a patient**

- › Check the right assignment of the image data (e. g. during image import, change of patient data new assignment of image data to a patient).
- › Observe the information displayed in the software.

3. In the section *Assign to RIS Task and Send to PACS* select the appropriate RIS task. The list can be updated with *RIS Query*.
4. Click on *Assign RIS Task*.  
The image will be sent to the PACS with reference to the data of the selected RIS task.

#### User-defined transfer to PACS partner

If you want to transfer images with different transfer settings to a configured PACS, you can use the function *User-Defined Transfer to PACS Partner*.

1. Click  in the light table menu.
2. Select *User-Defined Transfer to PACS Partner*.
3. In the flyout that opens, select the desired PACS.
4. Under *Transfer Settings* select the desired image settings.
5. Click *Send*.

The selected image with the different transfer settings will be sent to the PACS.

If the transfer to PACS is unsuccessful, the transfers will be saved in a list (see "Pending transfers to PACS partner").

#### Pending transfers to PACS partner

If the images cannot be transferred to the PACS (e.g. due to failed connection to the network or server/PACS), they will be saved in a list. In addition, the *Notifications* flyout will appear.

1. Click  in the bottom right.  
A list with the pending transfers will open.
2. Select one transfer and click on *Details*.  
The details will be shown with information on the transfer error.

3. Fix the transfer error (e.g. re-establish connection to the network or server/PACS).
4. If you wish to have all pending transfers sent to the PACS again, click **Retry All**.  
If you only want to retry one transfer, select it in the list and click **Retry**.  
The transfer will be restarted.

*Deleting a pending transfer:*

1. In the list, select the transfer you wish to delete and click **Delete**.  
The transfer will be cancelled and the image will not be transferred again to the PACS.

### 39.4 Transferring images to the practice management software

 This function is only visible if the VDDS-media interface is activated (see "77 Interfaces").

If an image acquisition request is sent from the practice management software to the imaging software then the new images and changes to the image information of existing images can be sent to the practice software without logging out from the patient.

When you log out the patient or close the imaging software the new images and changes to the image information are automatically sent to the practice management program if the VDDS-media interface is enabled.

The  button is active if new images from a VDDS image acquisition request are present.

1. Click  in the light table menu.  
The images and image information are transferred to the practice management software. You cannot continue working during the transfer.

### 39.5 Assigning an image to a different patient record

If images have been saved under the wrong patient's record, they can be reassigned to the correct patient's record on the light table.

 **CAUTION**  
**Personal injury is possible due to wrong assignment of image data to a patient**

- › Check the right assignment of the image data (e. g. during image import, change of patient data new assignment of image data to a patient).
- › Observe the information displayed in the software.

1. In the light table menu click  and then .  
The search window for the patient records is displayed in a flyout.
2. Search for the patient record under **Recently viewed patient records**.  
If the patient record is not listed under **Recently viewed patient records**, you can search the patient database via the search field.
3. Highlight the patient record you require in the list and click  to select it.  
The image is matched to the selected patient record.  
If the VDDS-media interface is enabled, the change will be automatically transferred to the practice management program.

 Surface scans cannot be reassigned.

## 39.6 Delete image

If images are no longer required, they can be deleted.

In the image archive, the button  is displayed on the image if the image can be deleted.



X-ray images recorded with the software cannot be deleted until the legally required retention period has passed (see "78.1 Configuration").

- In the image archive, click  on the image.  
or  
If the image is open on the light table, go to the light table menu and click .  
  
If the selected image can be deleted, you will be asked whether it should actually be deleted.
- Answer **Yes** to confirm.  
  
The image is moved to the recycling bin and permanently deleted after 14 days. Within these 14 days, the image can be restored, see "42.7 Restoring recently deleted images".

## 39.7 Multiple selection

One or more images can be edited using the "Image inspector's" multiple selection tool with the images being open on the light table.

*Opening multiple selection:*

- Click on **Multiple selection** to open the function group.
- Tick the check box  next to the preview image for each image that is to undergo further processing using the multiple selection tool.  
  
The check box can also be activated in the data bar. This selects all images recorded on the same day.

*Exporting images:*

- Click .  
  
The selection list for the image export mode will open.

- Select the correct image export mode.  
The image-export modes can be modified (see "Configuration"). The user-defined export can be adjusted for every export, and the chosen settings are saved locally for the next use.  
  
The images can also be exported to a data carrier, see "Creating a patient medium".  
  
The selected images will be exported to the defined path.  
You can also use the light table to export a single image (see "Multiple selection").

*Load to light table:*

- Click .
- Click on **Load**.  
  
All selected images will be loaded to the light table.

*Delete:*

- Click .
- A prompt will be displayed to check whether you definitely want to delete the selected images.
- Confirm the question.  
  
The images are then permanently deleted. X-ray images that are still within their legally required retention period cannot be deleted. A notification message is displayed.

*Transfer to practice management program (if the VDDS-media interface is enabled):*

- Click .  
  
The selected images are transferred to the practice management software.

## 40 Managing tasks

For every pending image acquisition you can create a task that can then be accepted and edited via the task overview at every workstation of a multi-station installation.

This allows the tasks to be processed at the workstation to which the corresponding image acquisition device is connected.

The tasks are listed in the task overview.



### 40.1 Displaying a task overview

All pending tasks (VistaSoft and DICOM) are listed in the task overview. If several practices have been created then only the tasks for the currently logged-in practice are visible. tasks that have been accepted at a different workstation are not displayed (this applies to VistaSoft tasks only - DICOM tasks remain visible). DICOM tasks are only displayed if the workstation has been defined as a DICOM workstation.

If BDW tasks from a different practice are present, the number of open tasks for the other practice is displayed at the end of the order overview. You can change practice by clicking this information.

The status of the tasks is indicated by means of an icon. A distinction is made between VistaSoft and DICOM tasks:

| Imaging software task | DICOM task | Description    |
|-----------------------|------------|----------------|
|                       |            | New task       |
|                       |            | task active    |
|                       |            | task paused    |
|                       |            | task completed |
|                       |            | Task cancelled |

The tasks can be sorted by column (e.g. date, image acquisition type).

In addition, the following filters are available (in the upper area click on **Show options**):

**Show favourites only:** If this is activated then tasks will only be displayed for the X-ray stations that have been

marked as favourites for this workstation.

**Show completed and cancelled tasks:**

If this option is not enabled then only tasks with the status **New**, **Active** (own workstation only) or **Paused** will be displayed.

If enabled, tasks with the status **Completed** or **Cancelled** will also be displayed.

The filter settings are saved separately for each each workstation.

1. In the menu bar click task overview. The flyout **tasks** opens.
2. Select the task in the list to view the details for a task. The task details are displayed.

### 40.2 Searching for a DICOM task

1. Click **Task list** in the menu bar. The flyout **tasks** opens. The task list is displayed.
2. Switch to the **Task search** tab.
3. Select RIS/BDW partner.
4. Enter other search criteria.
5. Click **Send**.

An RIS query is started. The search results are displayed.



The search criteria in **Source** and **Task** are saved for the next search at this workstation.

**Deleting search criteria:**

1. To delete the search criteria in **Patient / Examination**, click **Delete**.

## 40.3 Create task

A new image acquisition task can be created in two ways depending on whether or not the patient is currently logged in.



It is only possible to create tasks within the imaging software. For DICOM tasks, the imaging software can only be used to process tasks but not to create them.

1. If the patient is logged in: click  in the menu bar.  
or  
If the patient is not logged in: select the patient in patient management and click .  
The flyout **Create task** opens.
2. Select the image acquisition type.  
If under **Displayed image acquisition types** the view **Favourites** is enabled then only the image acquisition types that are defined as favourites for the workstation are displayed. If the selection **All** is enabled then all available image acquisition types are displayed.
3. Select the acquisition source with which the task is to be performed.  
If **Any acquisition source** is selected then the acquisition source is not defined until the task is carried out.
4. Add comments as required.  
The comments are also displayed in the task overview.
5. Close the flyout.  
The task appears as a new task  in the task overview, see "40.4 Editing a task".  
If a workstation is linked in the X-ray station (see "76.4 Task management"), the task is automatically accepted and the recording unit is ready in standby.

## 40.4 Editing a task

Requirements:

- ✓ No other image acquisition is in progress (X-ray or video)

**Accept task:**

1. Click  in the menu bar.  
The flyout **tasks** opens.

2. Select the task you wish to edit from the list.  
Tasks with the status **New** or **Paused** can be accepted.  
DICOM tasks can also be accepted if they have the status of **Finished** or **Cancelled**.  
DICOM tasks must be loaded by the RIS via **RIS Query** unless the automatic query option is enabled (see "Configuring the RIS query"). If the automatic query option is disabled, update the list regularly using **RIS Query**.

The details for the task are displayed.

3. Click .  
or  
Double-click the task in the list.  
The image acquisition is started, if necessary you will still need to select the acquisition source and acquisition mode.  
The task disappears from the list on the other work stations.  
If the task is a DICOM task, the patient's data will be passed to the imaging software.



The information about the active task can be called up in the patient data bar under **Task information**.

**Interrupt task processing:**

1. Click  in the patient data bar.  
The task is interrupted. It can be continued from any workstation of a multi-station installation.
2. To continue processing the paused task, re-accept the task in the  task overview.

**Complete task:**



The task can only be concluded if all mandatory information for the acquired images has been entered.

1. Click  in the patient data bar.

Depending on the configuration, the task will also be automatically completed when a new task is accepted, the patient or practice is logged out or the imaging software is closed down.

## 40.5 Cancel task

A task can only be cancelled if it has the status  *Waiting* or  *Paused*.

 In the *Tasks* flyout, the cancelled tasks are also displayed if the option *Show completed and cancelled tasks* has been activated.

1. Click  in the menu bar.  
The flyout *tasks* opens.
2. Select the task you wish to cancel from the list.  
The details for the task are displayed.
3. Click .  
The task is cancelled.

## 41 Acquiring images

The imaging software allows the user to create or import X-ray and video images using the connected devices.

 Before an X-ray image for a female patient can be started, a dialog window appears to check whether she is pregnant. This prompt will only be displayed once for as long as the female patient remains logged in.

The *Pregnancy check* can also be disabled, see "78.1 Configuration". General responsibility for checking this lies with the dentist.

### 41.1 Importing the X-ray image using VistaScan / ScanX

Requirements:

- ✓ Patient is logged in.
- ✓ No other image acquisitions are in progress (X-ray or video).

1. In the menu bar click the desired image acquisition type (e.g.  for the preferred intraoral image).  
Via  you can call up further acquisition types that belong to the grouping.  
The imaging types in the favourites may differ depending the configuration (see "75.1 Configuration").

 Depending on the configuration of the image types (see "75 Acquisition types") the software is either immediately ready for the X-ray acquisition, or you will first need to select the acquisition source and the image acquisition mode.

2. Select the acquisition source and image acquisition mode and enter any X-ray parameters as required (if they are not already defined in the configuration).

3. Import the X-ray image at the image plate scanner.



For more information about this refer to the installation and operating instructions for the device.

X-ray image acquisition will now start. The preview window opens up. The status or a preview of the image is shown in the preview window. The image is automatically saved.

4. Import further images if required.
5. Once you have finished recording the last image, click **Finish imaging**.  
The preview window is closed. All acquired images are transferred to the image archive of the logged on patient. The newest images appear at the top of the image archive. If automatic image rotation is activated, the software checks the orientation of the image when transferring intraoral images to the image archive and rotates the image if necessary. This rotation can be undone, see "44 Editing images".  
From the image archive, the images can then be opened on the light table and edited (see "44 Editing images"). Similarly, indications can be entered via the functions in the light table menu, or the image information can be edited (see "39 Managing images").
6. If the image is marked with  in the image archive, enter X-ray parameters, see "Enter X-ray parameters/image information".

### Enter X-ray parameters/image information

If the X-ray parameters have not been entered or preselected in the configuration (see "30.3 Entering recommended values for X-ray parameters") and the function *X-ray parameters mandatory* is activated (see "78 Practices"), then the X-ray parameters will need to be entered separately for each image under .

If the X-ray parameters have been entered or they are preselected in the configuration, the X-ray parameters are automatically adopted for the first imported image. These values can also be adopted for the other images.

All fields marked  are mandatory fields and must be completed.

1. Click .

The *Image information* flyout will open.

2. Enter X-ray parameters.  
If the X-ray parameters have been entered or they are preselected in the configuration, the X-ray parameters are automatically adopted for the first imported image. If the preselected parameters are also to be applied to the other images, go to *Image information* for each image and click the button **Apply values**.
3. Optionally mark the tooth under **Dental notation** (multiple selection possible).  
By placing the marker in the dental notation system the image acquisition type is also automatically selected if it has not already been selected beforehand.
4. Optionally select the corresponding image acquisition type under **Acquisition type**.
5. Click  to close the flyout.

## 41.2 Taking an X-ray image in the SmartScan workflow using VistaScan / ScanX

Using the VistaScan Smart Reader / ScanX Smart Reader you can directly assign Image Plates IQ / IDX to a patient. The images are then automatically assigned to this patient when they are scanned.

A SmartScan-capable image plate scanner is required for scanning (see the device's installation and operating instructions).

Assignment of the image plate to a patient remains in place for a maximum of 8 hours and is deleted as soon as the image is scanned and assigned to the patient.

The status of the Smart Reader is shown via the status LED, see "Status LED Smart Reader" Requirements:

- ✓ Smart Reader is connected, status LED lights up blue
- ✓ SmartScan workflow () is present in the menu bar.
- ✓ Image plate scanner is SmartScan-capable.
- ✓ Patient is logged in.
- ✓ No other image acquisitions are in progress (X-ray or video).

1. Click () in the menu bar.

The dialog window opens.  
The status LED Smart Reader lights up green .

2. If multiple X-ray positions have been created for an image plate scanner, select the X-ray emitter.

3. Present the image plate to the Smart Reader.

The image plate is assigned to the logged-in patient.  
The status LED Smart Reader lights up green , ascending audio signal is heard  (if configured).

Multiple image plates can also be assigned to the patient. The dialog window shows the number of image plates that are currently assigned to the patient.

4. Create an X-ray image.

5. Import the X-ray image at the image plate scanner.



For more information about this refer to the installation and operating instructions for the device.

The image is transferred to the image archive of the assigned patient. The newest image appears at the top of the image archive.

6. Import further images if required.

If automatic image rotation is activated, the software checks the orientation of the image when transferring intraoral images to the image archive and rotates the image if necessary. This rotation can be undone, see "Display".

From the image archive, the images can then be opened on the light table and edited (see "44 Editing images"). Similarly, indications can be entered via the functions in the light table menu, or the image information can be edited (see "39.1 Displaying and editing image information").

7. If the image is marked with  in the image archive, enter X-ray parameters, see "Enter X-ray parameters/image information".

### Assign unassigned images

If image plates were scanned in the SmartScan workflow that are not assigned to a patient, an additional button () appears in the menu bar. The number of unassigned images is indicated in orange.

1. Click ()

2. Activate one or more images in the dialog window and click **Assign to logged-in patient**.  
or

3. In the dialog window, click **Assign to another patient** and select the patient.

### Checking the generated X-ray station

If an X-ray station has not yet been created with the X-ray emitter used and the image acquisition

device, a new X-ray station is generated when the image is scanned.

A warning symbol  appears on the light table for the image created with the generated X-ray station.

This X-ray station must be checked and approved.

1. Click **Generated X-ray station present** in the patient bar.
2. In the dialog window, click **Configure X-ray stations....**  
The *X-ray stations* configuration opens.
3. Select the generated X-ray station and click **Configuration**.
4. Check the configuration and amend it if necessary.
5. Click **Approve X-ray station**.

#### Deleting the assignment of the image plate

The assignment of the image plates to one patient or to all patients of a practice can be deleted. In the process, all the patient information associated with the image plate will be lost. This function is only visible for the user roles X-ray Assistant, Dentist and Administrator.

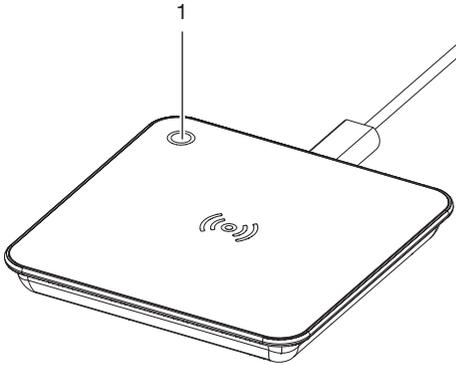
1. Click **(▶)**.  
The flyout shows how many image plates are assigned to the logged-in patient.
2. Click **Delete assignments**.
3. Click **This patient** to cancel the assignment of the image plates to the logged-in patient.
4. Click **All patients** to cancel the assignments of image plates to all patients.



If the image plate already contains an X-ray image, this can still be read – see "Assign unassigned images" or "41.1 Importing the X-ray image using VistaScan / ScanX".

### Status LED Smart Reader

The following status notifications can be displayed via the status LED of the Smart Reader. In addition, audible signals can also be activated in the configuration, see "73.2 Workstation".



1 Status LED

| Status LED   | Sound signal  | Meaning   |
|--|---|---|
|   | Blue  | Connected to computer   |
|   | Green   | Ready – expecting an image plate for scanning   |
|   | Green<br><br>(2 rising notes)      | Image plate detected and assigned to the patient  |
| <br> | Briefly orange, then yellow   | Image plate has already been assigned to another patient<br>› Refer to the notes in the imaging software        |
|   | (2 identical tones)   |   |
|   | Green<br><br>(2x 2 rising notes) | Image plate has been successfully assigned to another patient   |
|   | Pink  | An error has occurred.<br>› Disconnect and reconnect the device.<br>› Inform a Service Technician if necessary. |

### 41.3 Taking an X-ray image using VistaPano / ProVecta S-Pan



The image can only be taken with the reconstruction PC that is directly connected to the image acquisition device. After the image has been saved in the database, the image can be viewed and edited at all workstations.

Requirements:

- ✓ VistaSoft has been opened.
- ✓ Patient is logged in.
- ✓ No other image acquisitions are in progress (X-ray or video).

1. In the menu bar click on the required image (e.g.



for a standard panoramic image).

Via

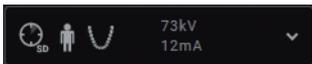


you can call up further acquisition types that belong to the grouping.



Depending on how the image acquisition types are configured, the acquisition of the X-ray image will start either immediately or you will first need to select an X-ray station.

2. If image acquisition does not begin automatically, select the X-ray station. The patient type, maxillary arch and imaging program parameters are preselected according to the patient.
3. Check the parameters (see also "Parameter overview").



Clicking the parameters opens a flyout for editing the parameters. The changed parameters are immediately synchronised with the device.

4. If the preselected parameters are correct, continue to work directly on the unit.

The status or progress of the image is shown in the preview window.

The image is automatically saved.



For information about operating the X-ray image acquisition device refer to the operating instructions of the device.

5. If the option *Automatically adopt S-PAN image* is disabled in the configuration (see "Device settings"), select the image from the image selection (S-PAN or normal).

The selected image is saved, the other one is discarded.

If the option is enabled (pre-selected) then the S-PAN image is automatically adopted. The preview window is closed. The image is transferred to the image archive of the patient logged-on. The newest image appears at the top of the image archive. From there, the images can then be opened on the light table and edited (see "44 Editing images"). In addition, the image information can be edited or an indication can be entered via the functions in the light table menu (see "39.1 Displaying and editing image information").

#### Parameter overview

##### Image quality



HD

HD images.

An improved signal/noise ratio is achieved via an extended exposure time. (Full Lat is not supported)



SD

SD images.

This setting is used for standard images.

##### Patient type

Selection of patient type will depend on the patient's size or their head circumference. This means that the preset patient type may need to be changed if necessary.

The X-ray parameters are preset using the patient type.

If a child is selected then the x-ray parameters are different:

- Reduced dose
- Shorter circulation time
- Smaller radiation field



large, large build patient



normal, average build patient



small, small build patient or adolescent



child (< 12 years)

---

### *Arch*

The selected jaw form influences the rotational behaviour of the C-shaped angle connector piece during image acquisition. This enables an image with an ideal layer position to be captured even on a particularly narrow or wide jaw.



Normal arch



Narrow arch



Wide arch



Child arch

**Imaging program, adult**

The selection of the imaging programs depends on the image acquisition device.

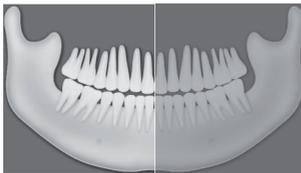
For panoramic images of children, the size of the radiation field is reduced with the aid of an additional collimator. The radiation dose is significantly reduced for this image.

**Panoramic images****Standard**

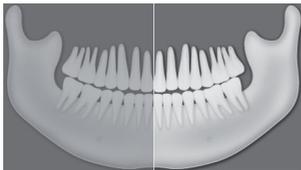
The standard panoramic image records the complete dental area with ascending dental branches and maxillary joints.

**Front**

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

**Right**

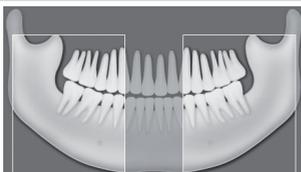
The image only shows the right dental area.

**Left**

The image only shows the left dental area.

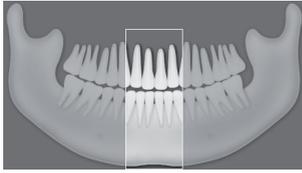
**Orthogonal**

The image shows the complete dental area and is generated perpendicular to the maxillary arch. This prevents overlapping crowns.

**Bitewing**

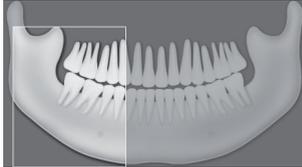
The image shows the lateral dental area with a size limited to the bite wings.

### Panoramic images



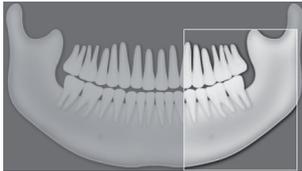
#### Bite wing front

The image shows the anterior area with a size limited to the bite wings.



#### Bite wing right

The image shows the right posterior region with a size limited to the bite wings.



#### Bite wing left

The image shows the left posterior region with a size limited to the bite wings.

### Temporomandibular imaging



#### Maxillary joint, lateral

The image shows the lateral maxillary joints with an open and closed mouth in 4-fold depiction on one image.



#### Maxillary joint, PA

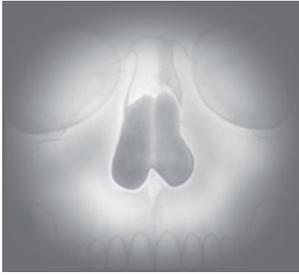
The image shows the posterior-anterior maxillary joints with an open and closed mouth in 4-fold depiction on one image.

### Sinus images



#### Sinus, lateral

The image shows the lateral sinuses.

**Sinus images****Sinus, PA**

The image shows the posterior-anterior sinuses.

**Cephalometric exposures****Head lateral full format**

The X-ray image shows the patient's complete skull from the side.

This X-ray program can be selected dependent on the version.

**Head lateral**

The X-ray image shows the patient's cranium from the side.

This X-ray program can be selected dependent on the version.

**Head PA**

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

**Cephalometric exposures**



**SMV**

The image shows the cranium in a submentovertebral projection. It is suitable for recording the maxillary arch and the maxillary joints, for example.



**Waters View**

This view is suitable for recording the articular head in the mandibular joint socket, for example.



**Carpus**

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

*Imaging program, child*

For panoramic images of children, the size of the radiation field is reduced with the aid of an additional collimator. The radiation dose is significantly reduced for this image.

**Panoramic images**



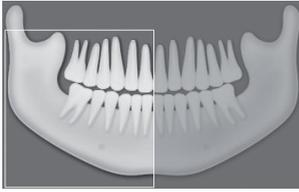
**Standard**

The standard panoramic image records the complete dental area with ascending dental branches and maxillary joints.

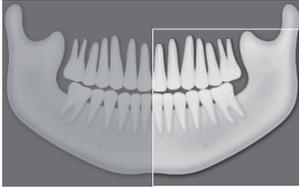


**Front**

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

**Panoramic images****Right**

The image only shows the right dental area.

**Left**

The image only shows the left dental area.

## 41.4 Taking an X-ray image using VistaVox / ProVecta 3D Prime

 The image can only be taken with the reconstruction PC that is directly connected to the image acquisition device. After the image has been saved in the database, the image can be viewed and edited at all workstations.

Requirements:

- ✓ VistaSoft has been opened.
- ✓ Patient is logged in.
- ✓ No other image acquisitions are in progress (X-ray or video).

1. In the menu bar click on the required image (e.g.  for a CBCT image). Via  you can call up further acquisition types that belong to the grouping e.g.  for 5x5 maxilla molar right (see "Acquisition types").

 Depending on how the image acquisition types are configured, the acquisition of the X-ray image will start either immediately or you will first need to select an X-ray station.

2. If image acquisition does not begin automatically, select the X-ray station. The parameters, imaging volume and patient shape, are preselected according to the patient.
3. Check the parameters (see also "Parameter overview").



Clicking the parameters opens a flyout for editing the parameters. The changed parameters are immediately synchronised with the device.

4. If the preselected parameters are correct, continue to work directly on the unit.

The status or progress of the image is shown in the preview window.

 For information about operating the X-ray image acquisition device refer to the operating instructions of the device.

The image is automatically saved.

The preview window is closed. All acquired images are transferred to the image archive of the logged on patient. The newest images appear at the top of the image archive. From there, the images can then be opened on the light table and edited (see "44 Editing images"). Similarly, indications can be entered via the functions in the light table menu, or the image information can be edited (see "39 Managing images").

## Parameter overview

### Acquisition types



The selection of the imaging programs depends on the image acquisition device.

### CBCT images



#### CBCT

The CBCT image shows the jaw area.

The size of the jaw area shown depends on the selected image volume.

Resolution: 200  $\mu\text{m}$



#### CBCT upper jaw

The X-ray image shows the upper jaw.

Resolution: 200  $\mu\text{m}$



#### CBCT lower jaw

The X-ray image shows the lower jaw.

Resolution: 200  $\mu\text{m}$



R

#### CBCT 5x5 Maxilla Molar right

The X-ray image depicts the right molar region of the maxilla with a volume of 5x5 cm.

Resolution\*: 120  $\mu\text{m}$



R

#### CBCT 5x5 Maxilla Premolar right

The X-ray image depicts the right premolar region of the maxilla with a volume of 5x5 cm.

Resolution\*: 120  $\mu\text{m}$



#### CBCT 5x5 Maxilla Front

The X-ray image depicts the front region of the maxilla with a volume of 5x5 cm.

Resolution\*: 120  $\mu\text{m}$



L

#### CBCT 5x5 Maxilla Premolar left

The X-ray image depicts the left premolar region of the maxilla with a volume of 5x5 cm.

Resolution\*: 120  $\mu\text{m}$



L

#### CBCT 5x5 Maxilla Molar left

The X-ray image depicts the left molar region of the maxilla with a volume of 5x5 cm.

Resolution\*: 120  $\mu\text{m}$



R

#### CBCT 5x5 Mandible Molar right

The X-ray image depicts the right molar region of the mandible with a volume of 5x5 cm.

Resolution\*: 120  $\mu\text{m}$



R

#### CBCT 5x5 Mandible Premolar right

The X-ray image depicts the right premolar region of the mandible with a volume of 5x5 cm.

Resolution\*: 120  $\mu\text{m}$



#### CBCT 5x5 Mandible Front

The X-ray image depicts the front region of the mandible with a volume of 5x5 cm.

Resolution\*: 120  $\mu\text{m}$

**CBCT images**



**CBCT 5x5 Mandible Premolar left**

The X-ray image depicts the left premolar region of the mandible with a volume of 5x5 cm.

Resolution\*: 120 µm



**CBCT 5x5 Mandible Molar left**

The X-ray image depicts the left molar region of the mandible with a volume of 5x5 cm.

Resolution\*: 120 µm

\* The resolution can be changed to 80 µm in the service menu of the unit.

For panoramic images of children, the size of the radiation field is reduced with the aid of an additional collimator. The radiation dose is significantly reduced for this image.

**Panoramic images**



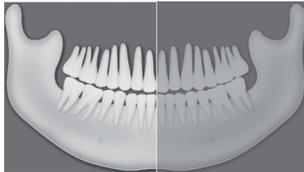
**Standard**

The standard panoramic image records the complete dental area with ascending dental branches and maxillary joints.



**Front**

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



**Right**

The image only shows the right dental area.



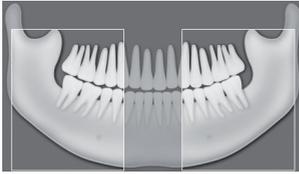
**Left**

The image only shows the left dental area.

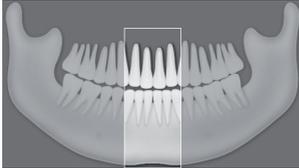


**Orthogonal**

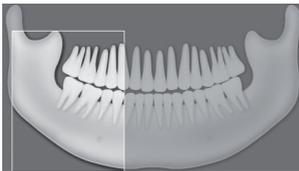
The image shows the complete dental area and is generated perpendicular to the maxillary arch. This prevents overlapping crowns.

**Panoramic images****Bitewing**

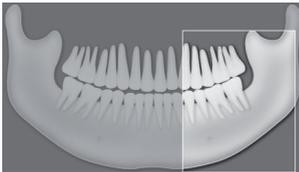
The image shows the lateral dental area with a size limited to the bite wings.

**Bite wing front**

The image shows the anterior area with a size limited to the bite wings.

**Bite wing right**

The image shows the right posterior region with a size limited to the bite wings.

**Bite wing left**

The image shows the left posterior region with a size limited to the bite wings.

**Temporomandibular imaging****Maxillary joint, lateral**

The image shows the lateral maxillary joints with an open and closed mouth in 4-fold depiction on one image.

**Maxillary joint, PA**

The image shows the posterior-anterior maxillary joints with an open and closed mouth in 4-fold depiction on one image.

### Sinus images



#### Sinus, lateral

The image shows the lateral sinuses.



#### Sinus, PA

The image shows the posterior-anterior sinuses.

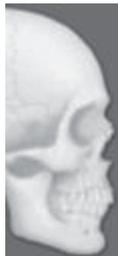
### Cephalometric exposures



#### Head lateral full format

The X-ray image shows the patient's complete skull from the side.

This X-ray program can be selected dependent on the version.



#### Head lateral

The X-ray image shows the patient's cranium from the side.

This X-ray program can be selected dependent on the version.

**Cephalometric exposures****Head PA**

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

**SMV**

The image shows the cranium in a submentoververtex projection. It is suitable for recording the maxillary arch and the maxillary joints, for example.

**Waters View**

This view is suitable for recording the articular head in the mandibular joint socket, for example.

**Carpus**

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

### Image acquisition volume

The selection of the imaging volume will depend on the patient's size or their head circumference.



Standard imaging volume for adults  
The image acquisition covers a cylindrical region (diameter approx. 10 cm, height approx. 8.5 cm).



Smaller imaging volume for children  
The image acquisition covers a cylindrical region (diameter approx. 10 cm, height approx. 7 cm).

### Image quality



An improved signal/noise ratio is achieved via an extended exposure time and a higher dosage.



This setting is used for standard images.

### Patient shape

Selection of patient type will depend on the patient's size or their head circumference. This means that the preset patient type may need to be changed if necessary.

The X-ray parameters are preset using the patient type.

If a child is selected then the x-ray parameters are different:

- Reduced dose
- Shorter circulation time
- Smaller radiation field



large, large build patient



normal, average build patient



small, small build patient or adolescent



child (< 12 years)

### Arch

The selected jaw form influences the rotational behaviour of the C-shaped angle connector piece during image acquisition. This enables an image with an ideal layer position to be captured even on a particularly narrow or wide jaw.



Normal arch



Narrow arch



Wide arch



Child arch

## 41.5 Taking an X-ray image using VistaRay / SensorX



Every X-ray sensor requires individual calibration data. This data is enclosed with the sensor on a calibration data carrier and needs to be installed for each sensor.

Requirements:

- ✓ Patient is logged in.
- ✓ No other image acquisitions are in progress (X-ray or video).

1. In the menu bar click the desired image acquisition type (e.g. for the preferred intraoral image).  
Via you can call up further acquisition types that belong to the grouping.  
The imaging types in the favourites may differ depending on the configuration (see "75.1 Configuration").



Depending on the configuration of the image types (see "75 Acquisition types") the software is either immediately ready for the X-ray acquisition, or you will first need to select the acquisition source and the image acquisition mode.

2. Select the acquisition source and image acquisition mode and enter any X-ray parameters as required (if they are not already defined in the configuration).

**3.** Record an X-ray image.

For more information about this refer to the installation and operating instructions for the device.

X-ray image acquisition will now start. The preview window opens up.

The status or a preview of the image is shown in the preview window.

The image is automatically saved.

**4.** Import further images if required.**5.** Once you have finished recording the last image, click *Finish imaging*.

The preview window is closed. All acquired images are transferred to the image archive of the logged on patient. The newest images appear at the top of the image archive.

When intraoral images are transferred to the image archive the software checks the orientation of the image and rotates the image as required. This rotation can be undone, see "44 Editing images".

From the image archive, the images can then be opened on the light table and edited (see "44 Editing images"). Similarly, indications can be entered via the functions in the light table menu, or the image information can be edited (see "39 Managing images").

**6.** If the X-ray parameters have not been entered or preselected in the configuration (see "76.3 Image processing") and the function *X-ray parameters mandatory* is activated (see "78.1 Configuration"), then the X-ray parameters will need to be entered separately for each image under .

If the X-ray parameters have been entered or they are preselected in the configuration, the X-ray parameters are automatically adopted for the first imported image. If the preselected parameters are also to be applied to the other images, go to *Image information* for each image and click the button *Apply values*.

In addition, where applicable you should also select the tooth (multiple selection is possible) under *Dental notation system* and select the corresponding image acquisition type under *Image acquisition type* for which the image was created. By placing the marker in the dental notation system the image acquisition type is also automatically selected if it has not already been selected beforehand.

**41.6 Taking an X-ray image with a TWAIN device**

Requirements:

- ✓ You are logged into the patient record
- ✓ No other image acquisition is in progress (X-ray or video)

**1.** In the menu bar click the desired image acquisition type (e.g.  for the preferred intraoral image).

Via  you can call up further acquisition types that belong to the grouping.

The imaging types in the favourites may differ depending the configuration (see "75.1 Configuration").



Depending on the configuration of the image types (see "75 Acquisition types") the software is either immediately ready for the X-ray acquisition, or you will first need to select the acquisition source and the image acquisition mode.

**2.** Select the acquisition source.

The TWAIN logo is displayed in the preview window.

The software of the TWAIN device opens.

3. Produce or import an X-ray image on the device.



For more information about this refer to the installation and operating instructions for the device.

The image is automatically saved. The image is transferred to the image archive of the patient logged-on. The newest images appear at the top of the image archive. From there, the image can be opened and edited on the light table (see "44 Editing images"). Similarly, indications can be entered via the functions in the light table menu, or the image information can be edited (see "39 Managing images").

4. If an image acquisition needs to be cancelled, e.g. due to a device fault, click  >  in the preview window.

The image acquisition is cancelled. During the next image acquisition with the TWAIN device the image transfer will be repeated if necessary, and it is possible that the image will be assigned to the wrong patient.

5. Import further images if required.
6. If the X-ray parameters have not been entered or preselected in the configuration (see "Parameters") and the function *X-ray parameters mandatory* is activated (see "78.1 Configuration"), then the X-ray parameters will need to be entered separately for each image under .

If the X-ray parameters have been entered or they have been preselected in the configuration, the X-ray parameters are automatically adopted for the first imported image. If the preselected parameters are also to be applied to the other images, go to *Image information* for each image and click the button *Apply values*.

In addition, where applicable you should also select the tooth (multiple selection is possible) under *Dental notation system* and select the corresponding image acquisition type under *Image acquisition type* for which the image was created. By placing the marker in the dental notation system the image acquisition type is also automatically selected if it has not already been selected beforehand.

## 41.7 Creating a video image with an intraoral camera

A separate imaging window will open for video images. The imaging window is made up of the preview window and the image inspector. If the camera is active, the live image from the camera can be seen in the preview window. If the camera is not active an animation is shown in the preview window.

If the symbol  is displayed in the upper right corner of a CamX Spectra image, the boost filter is active (see also "73.9 Boost filter").

Only the currently acquired images are displayed in the image inspector. When the imaging window is closed the images are transferred to the image archive of the patient.

Requirements:

- ✓ You are logged into the patient record
- ✓ No other image acquisition is in progress (X-ray or video)

1. Click  in the menu bar.

The image acquisition window opens.

If a camera has already been preselected in the configuration (see "74.2 VistaCam / CamX") then the video preview can be seen. If no camera is preselected then a device needs to be selected.

If the camera is not active an animation is shown in the preview window.

2. If the video preview is not visible, select the device in the image bar.
3. If an animation is shown in the imaging window, activate the camera (e.g. take it out from the handpiece holder or attach an interchangeable head).
4. Click  to expand the video image to full screen if necessary.
5. Depending on the camera or the interchangeable head used, the video settings for the preview can be adjusted via  (see "Adjusting the video settings").
6. If the camera supports the live caries filter then the video preview can be switched between  prophylaxis view and caries view .

7. Position the camera and take a freeze-frame shot using the capture ring or by clicking .

The acquired images are automatically saved for the logged-in patient and displayed in the image inspector.

For image proofs, select the caries filter  or the prophylaxis view .

If there is too much ambient light when a Proof or Spectra image is being recorded,  will be displayed. The caries filter cannot be used with this image.

8. To view an image again in the preview window, select the image in the image inspector.
9. Delete images that are not required by clicking .
10. Enter image information via  (only the dentition type and the dental notation are available in the image inspector). The image information can be edited or an Indication can be entered later via the functions in the light table menu (see "38.2 Light table").
11. Use the capture ring or click  to return to the video preview.
12. Once you have finished recording the last image, click *Finish imaging*.  
The imaging window will be closed. All images are displayed in the image archive of the logged-in patient. From there, the images can then be opened on the light table and edited (see "44 Editing images").

### Adjusting the video settings

Depending on the camera used the video settings can be adjusted in the preview window.

-  Brightness Adjust the brightness of the preview image with the slider
-  Contrast Adjust the contrast of the preview image with the slider
-  Saturation Adjust the saturation of the preview image with the slider
-  Sharpness Adjust the sharpness of the preview image with the slider

-  Gamma Adjust the gamma value of the preview image with the slider
-  Resolution Adjust the resolution of the preview image

The video settings are reset to the standard values with *Reset*.

## 41.8 Creating video images with a TWAIN device

A separate imaging window will open for video images. The imaging window is made up of the preview window and the image inspector. In addition, the software of the TWAIN device also opens.

The TWAIN logo is displayed in the preview window.

Only the currently acquired images are displayed in the image inspector. When the imaging window is closed the images are transferred to the image archive of the patient.

Requirements:

- ✓ You are logged into the patient record
  - ✓ No other image acquisition is in progress (X-ray or video)
1. Click  in the menu bar.  
The image acquisition window opens.
  2. Select the TWAIN source *Video DataSource* in the image acquisition bar.  
The software of the TWAIN device opens.
  3. Capture a still image with the camera software.  
The acquired image is automatically saved for the logged-in patient and displayed in the preview window and in the image inspector.
  4. To view an image again in the preview window, select the image in the image inspector.
  5. Delete images that are not required by clicking .

6. Enter image information via  (only the dentition type and the dental notation are available in the image inspector). The image information can be edited or an Indication can be entered later via the functions in the light table menu (see "39.1 Displaying and editing image information").
7. Use the camera to take further still images.
8. After the last image acquisition close the camera software.  
The imaging window will be closed. All images are displayed in the image archive of the logged-in patient. From there, the images can then be opened on the light table and edited (see "44 Editing images").

6. To save and close the view, click .  
The view can be opened again, changed, or deleted, see "Managing views".

### 41.9 Creating an image series

An image series is used to combine the newly acquired X-ray or video images directly in a view. The view can be reopened at any time, see "Creating views".

The existing layouts and views can be managed via the light table menu, see "Views and layouts".

1. Click  in the light table menu.
2. Select a layout under *New view*.  
When doing this, make sure that the option *Fill frame with current images* is deactivated.

A new view is opened on the light table. The first frame is active.



If required, it is also possible to activate a different frame (e.g. #3). Afterwards the next free frame will then be free (e.g. #4).

3. Create an image for the active frame.  
The image is inserted in the active frame. The next frame is active.  
If the image class of the acquired image does not match the image class of the frame, the image is marked with .
4. Create further images until all frames are filled.
5. If a frame is not required, close the frame with  and remove it from the view.

## 42 Importing and restoring images

An image can be imported into the software in any of the following ways:

- "42.1 Importing image data via drag & drop"
- "42.2 Importing image files (single image import)"
- "42.6 Importing an image from the image cache (cache image import)"
- "42.4 Importing the DICOMDIR directory (DICOMDIR import)"
- "42.5 Importing an image from the device memory (standalone / retrieve)"
- "42.3 Importing CBCT series (DICOM series import)"

Images that were deleted within the last 14 days can be restored, see "42.7 Restoring recently deleted images".

Patient metadata can be saved along with the image, allowing the image to be saved under a new patient record or allowing it to be matched to the relevant patient record that already exists. In addition, the image can also be matched to an existing patient record.

Depending on the information saved with the image, the image may be matched to an existing patient record, or new patient record can also be created.

The following file formats can be imported:

- DICOM (\*.dcm)
- PNG (\*.png)
- TIFF (\*.tif, \*.tiff)
- JPEG (\*.jpg)
- JPEG 2000 (\*.jp2, \*.j2k)
- Bitmap (\*.bmp)
- XTF (original image state) (\*.xtf)
- VTF (\*.vtf)
- XYZ (\*.xyz)
- DICOM series, i.e. a directory with individual layer images (must have been taken by a Dürr Dental X-ray unit)

### 42.1 Importing image data via drag & drop

Individual images or directories can be imported via drag & drop.

1. Select one or more image files in a directory.  
or  
Select a directory containing image files.

2. Click and hold down the mouse button and drag the files into the window of the imaging software (drag & drop).

The dropzone appears above the software interface.

3. Release the mouse button.  
The *Image import and restore* flyout opens.
4. Check the image type; make any changes as required.
5. Enter the recording date.  
If multiple images do not have a recording date, it is possible to define a global recording date for them in the upper area of the fly-out. Using *Set acquisition date* will transfer the acquisition date defined above to the individual images.
6. If you want to match the image to the patient record you are logged into, click *Import to current patient record*.
7. If the image contains patient data that you want to transfer into the software, click *Import via image information* to import.
8. If you want to match the image to another patient record, click *Import to a different patient record* and select the patient record.
9. If multiple images are imported from different patients, only activate the images of one patient in the structure and import them for this patient.  
The *Image import and restore* flyout remains open.  
The remaining images can then be assigned to a different patient.

### 42.2 Importing image files (single image import)

1. Click  in the menu bar.
2. In the *Image import and restore* flyout, click .
3. Select one or more image files.
4. Click *Open*.
5. Check the image type; make any changes as required.

6. A separate image acquisition date can be entered for each image.  
If multiple images do not have a recording date, it is possible to define a global recording date for them in the upper area of the flyout. Using **Set acquisition date** will transfer the acquisition date defined above to the individual images.
7. If you want to match the image to the patient record you are logged into, click **Import to current patient record**.
8. If the image contains patient data that you want to transfer into the software, click **Import via image information** to import.
9. If you want to match the image to another patient record, click **Import to a different patient record** and select the patient record.

### 42.3 Importing CBCT series (DICOM series import)

CBCT images that are available as a series of DICOM files (CT Image Storage or Enhanced CT Image Storage) can be imported (layers stored individually in a directory).

CBCT images that are available as a single DICOM file (just one file with the ending .dcm) can be imported with  (see "42.2 Importing image files (single image import)").

Requirements:

- ✓ Licensing the VistaSoft 3D module

1. Click  in the menu bar.
2. In the **Image import and restore** flyout, click .
3. Select a directory.
4. Click **Open**.
5. If you want to match the image to the patient record you are logged into, click **Import to current patient record**.
6. If the image contains patient data that you want to transfer into the software, click **Import via image information** to import.
7. If you want to match the image to another patient record, click **Import to a different patient record** and select the patient record.

### 42.4 Importing the DICOMDIR directory (DICOMDIR import)

1. Click  in the ribbon.
2. In the **Image import and recovery** flyout, click .
3. Select the DICOMDIR directory that is to be imported.
4. In the flyout select the images that are to be imported.  
On the right-hand side you will see the images that are being imported.
5. If necessary select the image type.
6. A separate image acquisition date can be entered for each image.  
If there are images without an image acquisition date, it is possible to define a global acquisition date for them in the upper area of the flyout.  
Images without an acquisition date are not imported.
7. If you want to assign the images contained in the directory to the patient record you are logged into, click **Import to current patient record**.
8. If you want to assign the images contained in the directory to a different patient, click **Import to a different patient record**.
9. If the included patient data is to be used click on **Import via image information** to import. If the patient data is incomplete and a matching patient already exists, this patient will be offered in a dialogue window. Select the patient and click **Update selected patient** or import the images as a new patient by clicking **Create new patient**.

### 42.5 Importing an image from the device memory (standalone / retrieve)

1. Click  in the ribbon.
2. In the **Image import and restore** flyout, click .
3. Select the required device.

4. In the flyout select the images that are to be imported.

On the right-hand side you will see the images that are being imported.

5. If necessary select the image type.
6. A separate image acquisition date can be entered for each image.  
If there are images without an image acquisition date, it is possible to define a global acquisition date for them in the upper area of the flyout.  
Images without an acquisition date are not imported.
7. If you want to assign the images contained in the directory to the patient record you are logged into, click **Import to current patient record**.  
If you want to assign the images contained in the directory to a different patient, click **Import to a different patient record**.  
If the included patient data is to be used click on **Import via image information** to import.

## 42.6 Importing an image from the image cache (cache image import)

If it is not possible to transfer an image to the server after it is created, then it is saved in the image cache of the workstation (see "73.1 Image cache").

The import from the image cache can then be manually triggered from the workstation.

1. Click  in the ribbon.
2. In the **Image import and restore** flyout, click .
3. Select one or more image files.
4. If you want to match the image to the patient record you are logged into, click **Import to current patient record**.
5. If you want to match the image to another patient record, click **Import to a different patient record** and select the patient record.

## 42.7 Restoring recently deleted images

Images that have been deleted can be restored within 14 days.

After 14 days the images are permanently deleted.

Images from VistaSoft Connect tasks cannot be restored.

1. Click  in the ribbon.
2. In the **Image import and restore** flyout, click .
3. In the **Recently deleted images** flyout, select the images that should be restored.  
A preview and image information are displayed on the right-hand side.
4. Click **Restore**.  
The selected images are once again displayed in the image inspector.  
If images for a deleted patient are restored, the patient will also be restored.

## 43 Exporting images



If there are annotations in an image, these are handled differently when being exported:

For 2D images, the annotations are inserted into the image and therefore will overwrite the original image information at this point.

For 3D images, the annotations are not exported.

### 43.1 Export image

Various predefined image export modes and a user-defined export are available for image exporting. The predefined modes can be adapted (see "Image export modes..."). The following settings can be selected during the user-defined export (see also "Image export modes..."):

- Destination type
- File path
- File name
- Image state
- 2D/3D X-ray format or video format
- Anonymization of the data
- Embed viewer

The selected settings for the user-defined export are saved locally and can be reused during the next export.

The images can also be exported to a data carrier, see "Creating a patient medium".

1. Click  in the light table menu.  
The selection list for the image export mode will open.
2. Select the correct image export mode.  
The selected image will be exported to the defined path.  
More than one image can be exported at a time using the **Multiple selection** function in the image inspector (see "Multiple selection").

#### Creating a patient medium

If the computer has a CD/DVD burner then you can burn individual images or multiple images for a patient onto a data carrier (CD or DVD). In addition to the images, it is also possible to burn a link to the viewing software (web application)

onto the data carrier (see "Image export modes...").

#### Exporting individual images from the light table to a patient medium:

1. Select an image on the light table.
2. In the light table menu, click  > **Patient medium**.  
The data will be saved to the burning directory of the CD/DVD burner (e.g. **DVD-RW drive (E:)**) or to the virtual burning directory.
3. Change to the burning directory and click **Burn to data carrier**.  
You may also use your own burning software instead. For this, the data from the imaging software is also placed in a directory. This directory will be identified in the notifications. You can then use your own burning software to burn the data from this directory onto a CD/DVD.
4. Insert the data carrier and follow the instructions in the disc burning software.

#### Exporting multiple images from the light table to a patient medium (Windows):

1. In the multiple selection choose all images that are to be exported.
2. In the multiple selection click  > **Patient medium**.  
The data will be saved to the burning directory of the CD/DVD burner (e.g. **DVD-RW drive (E:)**) or to the virtual burning directory.
3. Change to the burning directory and click **Burn to data carrier**.  
You may also use your own burning software instead. For this, the data from the imaging software is also placed in a directory. This directory will be identified in the notifications. You can then use your own burning software to burn the data from this directory onto a CD/DVD.
4. Insert the data carrier and follow the instructions in the disc burning software.

### 43.2 Exporting an image to third-party software

This function can be used to transfer any image to third-party software. The image is saved to a temporary folder. When the third-party software

is launched the image is automatically loaded in the software.

Requirements:

- ✓ Third-party software has been added to the configuration (see "36.6 Interface to third-party applications")
- ✓ At least one image is opened on the light table (see "Display Images")

1. Click  in the light table menu.

If more than one third-party software has been configured, a selection list will open. If only one third-party software has been configured, the image will be transferred immediately.

2. Select the desired application.

The selected image will be transferred to the third-party software. During transfer, the imaging software is disabled for other operations.

Work can continue once the transfer has been successfully completed.



When opened, the application is checked for changes.

If the application has changed, a dialog window will open, see also "Check third-party software for changes".

2. To edit images for the logged-in patient that have already been exported in VistaSoft Trace, click .

### 43.4 Exporting an image to VistaSoft Implant & Guide

This function is used to transmit an image to VistaSoft Implant & Guide.

Requirements:

- ✓ VistaSoft Implant & Guide is licensed and enabled in the configuration (see "80.7 VistaSoft Implant & Guide")
- ✓ At least one image is opened on the light table (see "Display Images")

1. Click  in the light table menu.

The selected image is transmitted to VistaSoft Implant & Guide and opened. During transfer, the imaging software is disabled for other operations.

Work can continue once the transfer has been successfully completed.

### 43.3 Exporting an image to VistaSoft Trace

**Not regulatory cleared in the U.S. Not for sale in the U.S. and Canada.**

This function can be used to transmit a panoramic X-ray image or a cephalometric X-ray image with patient information to VistaSoft Trace.

Requirements:

- ✓ VistaSoft Trace is licensed and enabled in the configuration (see "80.8 VistaSoft Trace")
- ✓ At least one image is opened on the light table (see "Display Images")

1. Click  in the light table menu.

The selected image is transmitted to VistaSoft Trace and opened. During transfer, the imaging software is disabled for other operations.

Work can continue once the transfer has been successfully completed.

## 44 Editing images

The images can be edited on the light table (see "44.1 Toolbox").

In addition, default image settings can be saved for each X-ray station, so that every time a new image is recorded, it is automatically displayed on the light table with these settings (see "44.2 Managing default image settings").

### 44.1 Toolbox

The toolbox contains tools for editing the images on the light table.

The tools are divided into groups and can be expanded or collapsed by clicking 

The selection of tools depends on the image selected on the light table.

Once it has been edited, the image is saved with the preview in the "Image inspector" as soon as another image is selected on the light table or the image is cleared from the light table.



The changes to the image will be saved alongside the original image. The original image (*Original image*) can be displayed again by clicking on the selection list in the light table menu.

### 3D

In cone beam computed tomography (CBCT), three-dimensional volume data is reconstructed from a large number of individual two-dimensional X-ray images. These 3D renderings are used for display purposes only and can be viewed and evaluated in different views and slices.

There are three different views (see "Navigating in CBCT images (3D)") based on multiplanar reconstruction (MPR). Alongside the volume view, the MPR view shows three slices: the axial, sagittal and coronal slices. These slices can be individually modified.

In the panoramic view the axial and sagittal slice are shown, as well as the panoramic view (similar to a 2D panoramic X-ray image) and a transversal layer image (TSA).

With the TSA view, the axial slice, the pano view and also several transversal layer images are displayed. The number of TSA views can be adjusted.

#### Navigating in CBCT images (3D)

Various functions can be used to navigate through the slice planes/layers in the CBCT images. With the aid of these functions the slice planes can be moved or rotated in such a way that the important regions can be made visible for the examination.

In the illustration below all of the navigation functions have been made visible. Depending on the view (panoramic, TSA, MPR) and slice plane not all of the functions may be available.

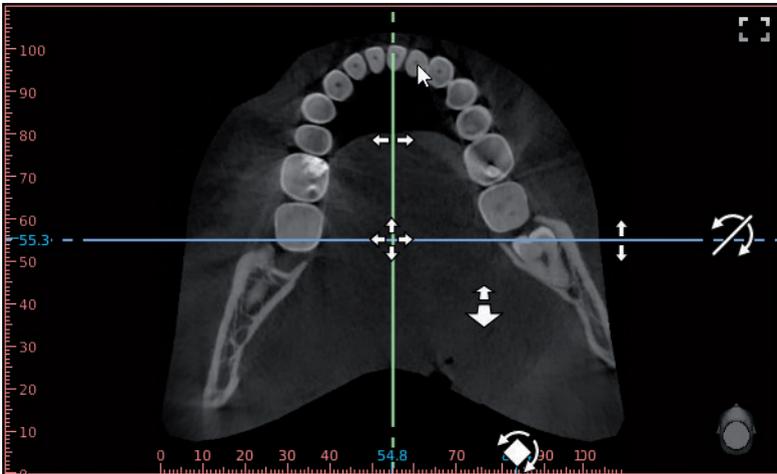


Fig. 2: Example image showing all of the navigation functions

|   |                                |   |
|---|--------------------------------|---|
|  | Jump to this point             | Double-click in any view (except the volume view) to jump to this point in the volume. The slice planes in all views are moved accordingly. |
|  | Move individual slice plane    | Press and hold the left mouse button on a slice plane to drag it horizontally/vertically.   |
|  | Move two slice planes together | Press and hold the left mouse button on the intersection between two slice planes to move them together at the same time.                   |
|  | Rotate slice plane             | Press and hold the left mouse button on the dotted edge of a slice plane to rotate it.  |
|  | Tilt slice plane               | Press and hold the left mouse button in the edge region of the view to tilt the view.   |



Scroll layers

Press and hold the left mouse button in a free area in the view to scroll through the layers.  
You can also press and hold the shift key and then use your mouse wheel to scroll through the layers. This function is useful if you are using the left mouse button to set anchor points (for example, when setting a nerve canal).

An orientation button  is displayed at the bottom right of each view showing the current viewing angle onto the patient.



The standard orientation of the slice planes can be restored in the light table menu .

The view can be changed in the volume view. The slice planes are displayed in the volume view, but they cannot be changed here.



Move image section

Press and hold the right mouse button to move the image section upwards/downwards or to the left/right. You can also hold the shift key and use your right mouse button to move the image section up/down and left/right. This function is useful if you are using the right mouse button to set anchor points (for example, when setting a nerve canal).



Rotate view

Press and hold the left mouse button to rotate the view.

Zoom image section in/out

Rotate the mouse wheel or use the zoom tools in the toolbox (see "Display") to increase or reduce the image section.  
If in the toolbox under **3D > Views > TSA** the option **Linked TSA views** is activated, the image sections of all TSA slices will be increased or reduced synchronously.

The orientation head always displays the current viewing angle onto the patient. In the volume view the viewing angle can be selected directly via the orientation head:



Orientation head front

Move the mouse cursor onto the orientation head. The views onto the orientation head are displayed and can be clicked on to select them.



Orientation head rear



Orientation head left



Orientation head right



Orientation head top



Orientation head bottom

## Display

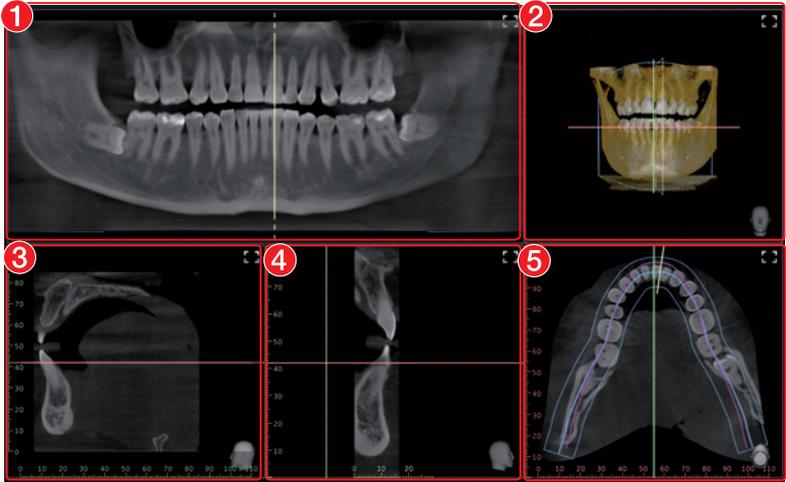
In digital volume tomography (CBCT), three-dimensional volume data is reconstructed from a large number of individual two-dimensional X-ray images (layer images). Different views are available for evaluation of the data. These views can be selected under **View**.

### Panoramic view



In the panoramic view a panoramic view is also displayed in addition to the slices. This panoramic view is calculated on the basis of the panoramic curve along the arch of the jaw. In addition, a slice of a transversal layer image (TSA slice) is displayed, which is calculated orthogonally to the panoramic curve.

Every CBCT image is initially opened in the panoramic view.



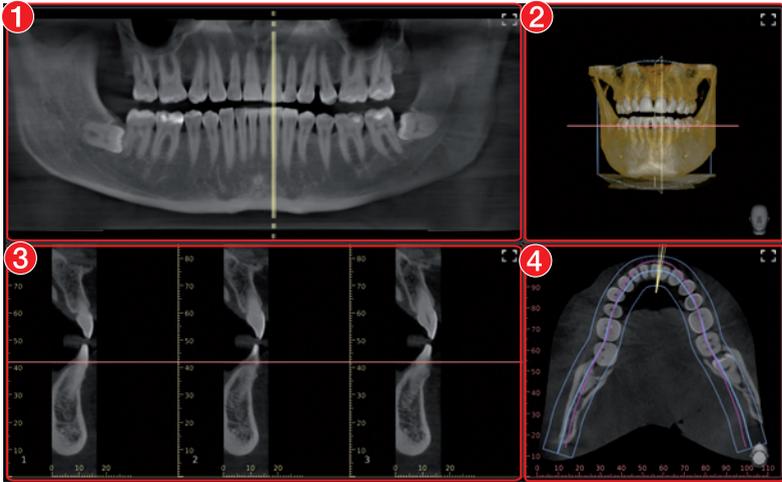
- 1 Panoramic view (calculated along the arch of the jaw)
- 2 Volume view
- 3 Sagittal MPR slice (view from left/right)
- 4 TSA slice (orthogonal to the panoramic curve)
- 5 Axial MPR slice (view from the top/bottom)

### TSA view



With the TSA view, several transversal layer images (TSA) are displayed in addition to the panoramic view.

The TSA slices are numbered (bottom left). The numbering allows adjacent TSA slices to be recognised, which makes drawing the nerve channel easier.

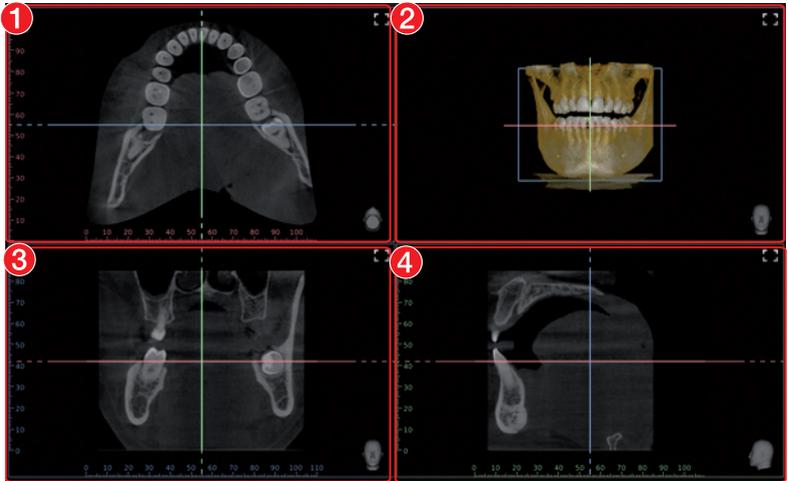


- 1 Panoramic view (calculated along the arch of the jaw)
- 2 Volume view
- 3 TSA slices (orthogonal to the panoramic curve), the number of slices can be chosen via the layout
- 4 Axial MPR slice (view from the top/bottom)

If the mouse cursor is positioned above one of the TSA slices, this TSA slice is highlighted in colour in the other views.

**MPR view**

With the multiplanar reconstruction (MPR), any two-dimensional layer and slice images can be displayed.



- 1 Axial MPR slice (view from the top/bottom)
- 2 Volume view
- 3 Coronal MPR slice (view from the front/rear)
- 4 Sagittal MPR slice (view from left/right)

**Panoramic**

|   |   |   |
|---|---|---|
|  | Anatomically adjusted panoramic curve               | Anatomically adjusted curve shape is automatically placed on the axial layers running through the mandible and maxilla. The anatomically adjusted curve cannot be changed.  |
|  | Standard panoramic curve, lower jaw                 | The standard curve form is automatically positioned on an axial layer that extends through the lower jaw  |
|  | Standard panoramic curve, upper jaw                 | The standard curve form is automatically positioned on an axial layer that extends through the upper jaw  |
|   | Standard panoramic curve on current slice plane     | The standard curve form is manually positioned on the current axial slice. The centre point of the arch of the jaw is manually positioned by the user.  |
|  | User-defined panoramic curve on current slice plane | A free curve form is manually positioned on the current axial slice. The individual points of the panoramic curve are manually positioned one after the other.  |
|  | Abort creation of user-defined panoramic curve      | During creation of the user-defined panoramic curve the points that have already been positioned are deleted again.   |
|  | Panoramic thickness                                 | The layer thickness of the panoramic curve can be freely adjusted with a slider.<br>With a lower thickness the panoramic view is sharper but noisier. With increasing thickness the noise is reduced, but the panoramic view appears less sharp. Here, with increasing thickness the panoramic view approaches the character of a panoramic X-ray image (2D). |

The panoramic curve (except for the anatomically adjusted panoramic curve) can be moved and edited once it has been positioned.

The panoramic curve is also shown in the annotations.

**Positioning the panoramic curve automatically:**

1. Click  (anatomically adjusted),  (maxilla) or  (mandible).  
The panoramic curve is positioned. The panoramic view is calculated.

**Position standard panoramic curve on current slice plane:**

1. Adjusts the slice plane in the axial MPR slice.
2. Click .
3. In the axial MPR slice click on the centre point of the arch of the jaw.  
The standard panoramic curve is positioned. The panoramic view is calculated.

**Creating a user-defined panoramic curve:**

1. Adjusts the slice plane in the axial MPR slice.
2. Click .
3. In the axial MPR slice left-click on the edge of the arch of the jaw.
4. Position the further points of the arch of the jaw with the left mouse button.
5. Place the end point of the arch of the jaw with the right mouse button.  
The panoramic view is calculated.

***Moving a panoramic curve:***

1. Press and hold the left mouse button on the line of the panoramic curve (not on a point) and move the curve.  
The entire panoramic curve is moved. The active layer is moved at the same time in parallel.

***Editing a panoramic curve:***

1. To move a point of the panoramic curve, press and hold the mouse button on the point and drag it.
2. To add a point, press the Ctrl key and left-click on the panoramic curve between the points.
3. To delete a point, press the Ctrl key and left-click on the point on the panoramic curve.
4. To scale the panoramic curve, press the Shift key, left-click on the panoramic curve and hold the button pressed while increasing/reducing the panoramic curve.

TSA

|   |                   |   |
|---|-------------------|---|
|  | Select TSA layout | Flyout for selection of the layouts or the number of transversal slices that are to be displayed (maximum of 6 rows x 10 columns) |
|  | TSA distance      | With the aid of a slider the distance between the transversal slices can be changed (0.2 mm - 10.0 mm).                           |
|  | TSA length        | With the aid of a slider the length of the transversal slices can be changed (2 mm - 200 mm).                                     |
|  | TSA width         | With the aid of a slider the width of the transversal slices can be changed (0.1 mm - 10.0 mm).                                   |

The TSA settings are saved when the user switches to a different view, closes the image or exits the software.

**Select TSA layout:**

1. Click .  
The flyout with the matrix for selection of the TSA views opens.
2. Move the mouse cursor over the matrix.
3. When the required TSA views are selected (marked blue) click on the matrix.

**Result:**

The TSA slices are displayed and shown in the other views.

**Moving TSA slices:**

1. In the panoramic view or the axial slice, use the left mouse button  to move the TSA slices.  
All TSA slices are moved together along the panoramic curve.

**Tilting TSA slices:**

1. In the panoramic view, use the left mouse button  to tilt the TSA slices.  
The TSA slices can be tilted by max.  $\pm 75^\circ$ .  
TSA slices are tilted together in parallel. The position of the TSA slices is also displayed in the volume view, but cannot be changed in this view.

MPR

|   |                         |  |
|---|-------------------------|--|
|  | Thickness of MPR slices | The thickness of the MPR slices can be changed with the slider.<br>The lower the thickness, the sharper but the noisier the image. The higher the thickness, the lower the noise but the less sharp the image. |
|---|-------------------------|--|

The adjustment always applies to all slices (sagittal, coronal, axial) of an MPR view.

The set thickness is saved when the user switches to a different view, closes the image or exits the software.

## Nerve canal

|   |                               |   |
|---|-------------------------------|---|
|  | Create a nerve canal proposal | A proposal for the position of the nerve canal is calculated automatically (only visible if the calculation of the nerve canal proposal is activated in the configuration, see "80.5 Nerve canal detection"). The proposal must be verified by a trained professional.  |
|  | Draw nerve canal in image     | The nerve channel can be drawn in all two-dimensional views (panoramic view and slices). The individual anchor points of the nerve channel are manually positioned one after the other. Once the nerve channel has been drawn, it is visible as a semitransparent "tube" in all views, including the volume view. It is saved as an annotation. |
|  | Delete nerve channel          | Deletes a nerve channel that has already been created. To do this, the nerve channel must be selected in a view or in the annotations.  |



In the list of annotations, the drawn nerve channel can be called up again. When it is called up, the slices and the panoramic view are reset to the representation in which the nerve channel was drawn.

The nerve channel can be drawn in all two-dimensional views (slices and panoramic view) and is displayed in all views (including the volume view).

A nerve canal proposal can be calculated automatically (see also "80.5 Nerve canal detection").



### WARNING

**The nerve canal can be displayed or drawn incorrectly.**

The nerve can be injured during the treatment.

- › Only use the drawn nerve canal as a guide.
- › During the treatment pay attention to the actual location and path of the nerve canal.

### Calculating a nerve canal proposal:

1. Click .

The nerve canal proposal is created automatically. The proposal must be verified by a trained professional.

### Drawing the nerve canal manually:

1. Click .
2. Left-click with the mouse to position the anchor points of the nerve channel. You can also hold the shift key and use your mouse wheel to scroll through the layers.
3. Set the last anchor point with the right mouse button.

### Edit nerve channel:

1. To move an anchor point of the nerve channel, click on the anchor point, hold the mouse button and move the point.
2. To add an anchor point, press the Ctrl key and left-click on the nerve channel between the anchor points.
3. To delete an anchor point, press the Ctrl key and left-click on the point of the nerve channel.

*Change display of nerve channel:*

1. To change the colour and thickness, select the nerve channel in the annotations and click .

*Delete nerve channel:*

1. Select the nerve channel in a two-dimensional view or in the annotations.
2. Click .

## Volume

There are different display options in the volume view:

|               |   |
|---------------|---|
| X-ray         | Simulated X-ray projection image  |
| Maximum value | Simulated X-ray projection image, the brightest point is shown for every image point in the viewing direction |
| ISO layer     | View of the volume combining two opaque surfaces: soft tissue (brown) and bone structures (white)             |
| 3D            | 3D rendering  |
| User-defined  | 3D rendering with simulated illumination. Skin tissue and muscle tissue are displayed in addition.            |

In the **3D** view different tissue types are shown with different colours. The visibility of the tissue types can be adjusted with the relevant slider.

Tissue types in the **3D** view:

- Bone
- Dentine
- Enamel
- Metal

Tissue types in the **User-defined** view:

- Skin
- Muscle
- Bone
- Dentine
- Enamel
- Metal

The colours for the tissue types can each be chosen via a flyout in the **User-defined** view.

*Slice*

| Slice   | Display of the slice planes in the volume view            |   |
|---|---|---|
|  | Show slice plane edges only                               | Only the edges of the slice planes are displayed (may be masked by the volume display).                                 |
|  | Show slice planes with semitransparent surface            | The slice planes are displayed with colour-filled surfaces (may be masked by the volume display or other slice planes). |
|  | Hide slice planes   | The slice planes are not visible.   |
| Axial   | Region above or below the slice plane is hidden.          |   |
| Sagittal  | Region to the left or right of the slice plane is hidden. |   |
| No slice  | Everything is visible, all regions are displayed.         |   |
| Reverse   | Hidden regions are inverted (top/bottom or left/right).   |   |

## Display

These tools allow you to alter the image view.

The zoom tools change the size that the image is displayed on the light table. The settings are not saved.

The settings for rotating and inverting an image are saved.

The zoom tools in CBCT images (3D) can be used for all views. If the option *Same zoom in all views* is enabled, then all views, except panoramic and volume view, are displayed at the same zoom factor. If the option is disabled, each view can be changed individually. The tools for image rotation and mirroring are not available for CBCT images (for information on how to rotate a slice, see "Navigating in CBCT images (3D)").

### Zoom



This matches the size of the image to the size of the window.



This magnifies the image so that one screen pixel equals one image pixel. Is displayed centred in the window.

58% ▾

The current zoom factor is displayed. A defined zoom factor can be selected.



The zoom can be adjusted to any required setting via the slider. You can also use the mouse wheel to adjust the zoom.

### Rotate image



Rotate the image anti-clockwise by 90°.



Rotate the image clockwise by 90°.

### Mirroring



Horizontally invert the image



Vertically invert the image

### Image corrections

The image brightness, contrast and gamma can be corrected. As you adjust the sliders, you can see the changes directly in the image itself.



Adjust the image brightness



Adjust the image contrast



Adjust the image gamma value  
< 1: Bright areas become darker  
> 1: Dark areas become brighter

## Mouse mode



Brightness and contrast can also be changed directly in the image using the left mouse button. For this purpose, go to *Toolbox > Image corrections* and enable the option *Mouse mode*.

When the left mouse button is held down, making horizontal motions over the image changes the brightness, while vertical motions adjust the contrast. The sliders in the toolbox move along accordingly.

This option can be enabled separately for 2D X-ray/video images and for 3D X-ray images. It is preset for 2D X-ray/video images.

## Filter

Filters facilitate diagnosis when analysing X-ray images by highlighting interesting structures so that they can be more easily identified. Here, there are different filters for the different image types (e.g. intra, panoramic, cephalometric, ...).

Depending on the X-ray image type, the matching filters are automatically displayed in the toolbox.



### WARNING

#### Misdiagnosis through incorrect display is possible

- › Also use the original image for diagnosis.
- › Verify diagnosis using alternative methods.

## Filters for intra X-ray images

|  |                                 |   |
|--|---------------------------------|---|
|  | Intraoral Fine                  | This increases the contrast for fine structures.  |
|  | Intraoral UHD - supported by AI | Brightness and contrast are individually and dynamically adjusted in different image areas. Optimised X-ray image for clear and precise diagnostics |
|  | Intraoral Caries 1              | This increases the contrast for areas in which caries can be found. Fine structures are emphasised.   |
|  | Intraoral Caries 2              | This increases the contrast for areas in which caries can be found. Coarser structures are emphasised.  |
|  | Intraoral Endo                  | File in the root canal is optimally visualised.   |
|  | Intraoral Perio                 | The contrast is increased in areas of the periodontal spaces.   |
|  | Intraoral High Diagnostic       | Increased contrast for optimal visualisation of objects of a specific size.   |
|  | Intraoral Noise Reduction       | This cancels disruptive image noise and maintains image sharpness.  |
|  | Intraoral Fine 2                | Optional, activated for Japan   |
|  | Intraoral Keikirin              | Optional, activated for Japan   |

## Filters for panoramic X-ray images

|  |                |  |
|--|----------------|--|
|  | Panoramic fine | This increases the contrast for fine structures. |
|--|----------------|--|

**Filters for panoramic X-ray images**

|   |                                 |   |
|---|---------------------------------|---|
|  | Panoramic UHD - supported by AI | Brightness and contrast are individually and dynamically adjusted in different image areas. Optimised X-ray image for clear and precise diagnostics |
|  | Panoramic Standard              | This increases the contrast for relatively coarse structures.   |
|  | Panoramic High Diagnostic       | Increased contrast for optimal visualisation of objects of a specific size.   |
|  | Panoramic Noise Reduction       | This cancels disruptive image noise and maintains image sharpness.  |

**Filters for cephalometric X-ray images**

|   |                                     |   |
|---|-------------------------------------|---|
|  | Ceph Fine                           | This increases the contrast for fine structures.  |
|  | Cephalometric UHD - supported by AI | Brightness and contrast are individually and dynamically adjusted in different image areas. Optimised X-ray image for clear and precise diagnostics |
|  | Cephalometric 1                     | This increases the contrast for relatively coarse structures.   |
|  | Cephalometric PA                    | Posterior-anterior: View from back to front; this considerably increases the contrast for coarse structures.  |
|  | Cephalometric High Diagnostic-10    | Increased contrast for optimal visualisation of 10 mm objects.  |
|  | Cephalometric High Diagnostic 5s    | Increased contrast for optimal visualisation of 5 mm objects. Subsequent image sharpening via unsharp mask filter.                                  |
|  | Cephalometric High Diagnostic 5g    | Increased contrast for optimal visualisation of 5 mm objects. Subsequent image sharpening via Gaussian filter.                                      |
|  | Cephalometric Noise Reduction       | This cancels disruptive image noise and maintains image sharpness.  |

**Filters for CBCT X-ray images**

|   |                            |   |
|---|----------------------------|---|
|  | CBCT UHD - supported by AI | Brightness and contrast are individually and dynamically adjusted in different image areas and additionally sharpened. Optimised 3D volume for clear and precise diagnostics. |
|---|----------------------------|---|

**Invert X-ray image**

|   |        |  |
|---|--------|--|
|  | Invert | The brightness values are inverted. The filter can be combined with any other filter for X-ray images. |
|---|--------|--|

On video images filters are only available for images taken with the Proof camera.

**Filters for video images recorded with a proof camera**

|  |                  |  |
|--|------------------|--|
|  | Caries filter    | Analyses the autofluorescence of the substances. The colour scale and the numeric values provide reliable information on carious lesions. The colour scheme legend can be called up with |
|  | Prophylaxis view | Original image recorded by the proof camera  |

**VistaSoft AID**

**Not regulatory cleared in the U.S. Not for sale in the U.S. and Canada.**

To use this, an internet connection and a link to a Dürr Dental ID with the corresponding subscription are required, see "81 Dürr Dental ID".

Intraoral X-ray images can be checked for the occurrence of caries.

Coloured markings provide an indication of carious lesions.

If available from VistaSoft AID, the carious lesions are evaluated based on the ICDAS classification (ICDAS = International Caries Detection and Assessment System). The colour of the marking is determined by the ICDAS classification.

The evaluation is carried out in VistaSoft AID Caries Detection and is displayed in VistaSoft.



For more information on VistaSoft AID Caries Detection, see the online manual (<https://help.vistasoft.com/aid-caries-detection>).

The manual is also available as a PDF: <http://qr.duerredental.com/2110100053>

**WARNING**

**Improper treatment possible due to incorrect labelling in the X-ray image**

➤ Use alternative diagnostic methods to verify the markings made by VistaSoft AID Caries Detection.

|  |                                     |  |
|--|-------------------------------------|--|
|  | Start the caries detection manually | The X-ray image is analysed. The evaluation is displayed in the X-ray image on the light table.  |
|  | Information on the analysis         | Flyout shows when and with which model version the caries detection was performed  |
|  | Hide recognised caries              |  |
|  | Show recognised caries              |  |
|  | Assess caries detection             | Opens flyout for user feedback on current caries findings to improve caries detection<br>Rating with  (very good),  (acceptable) or  (unacceptable) and optional comment |
|  | Delete recognised caries            | All markings are deleted.  |

|            |   |  |
|------------|---|--|
| Confidence | Artificial intelligence assessment of the reliability of the evaluation | The selection list can be used to set the confidence level from which the detected caries is displayed: <ul style="list-style-type: none"> <li>– Minimum (&lt; 25%)</li> <li>– Low (&lt; 50%)</li> <li>– Medium (&lt; 75%) (pre-selected)</li> <li>– High (≥ 75%)</li> </ul> |
|------------|---|--|

If the mouse moves over a marking, only the outline of the marking is visible; the centre is hidden. The details of the marking are displayed in a flyout:

|                           |  |
|---------------------------|--|
| Possible caries detection |  |
| Confidence:               | Reliability of the caries detection      |
| ICDAS classification:*    | Assessment according to ICDAS (C1 to C4) |

\* If available in VistaSoft AID

The information on the selected caries is also shown in the toolbox. The markings can be deleted individually with  (*Delete selected caries*).

When exporting images to third-party applications, the results from VistaSoft AID are not included.

## Histogram

The histogram shows the brightness distribution of the image.

Histogram windowing allows you to alter the image's grey scale values. The **black limit** shows the percentage of grey scale values changing to black, and the **white limit** shows the percentage of grey scale values changing to white. The limits can be altered to suit your requirements. The settings you have applied will be immediately apparent in the X-ray image on the light table.

The changes this makes to the image can emphasize structures that are otherwise too small to be distinguished by the human eye so that they can be identified.

If a filter is used then the histogram is automatically recalculated.

The image processing can be saved with the changes you have made (see "44.2 Managing default image settings"). To prevent the quality of future X-ray images being impaired excessively by the saved image processing, both limits are restricted to 10% on saving.

### Editing a histogram:

1. Use the two sliders to adjust the black and white limits.
2. To move the entire selected range between the black and white limits click  in the middle of the region and move it with the mouse button pressed.

## Measurements

Depending on the image, the following should be considered for measurements:

- The size and resolution of the image depends on the image acquisition device (see the operating instructions of the respective device).
- **2D X-ray images:** In order to estimate lengths and angles in 2D X-ray images, the image needs to be calibrated with the aid of a reference image object. Despite calibration, this estimation does not show the accuracy of a measurement and must not be used as a measured result. The accuracy depends greatly on the projection distortion of the object on the image detector area.
- **Video image:** In video images, lengths and angles cannot be estimated to scale.
- **Panoramic X-ray images** are not suitable for measuring due to their projection technique.
- **CBCT image (3D):** The calibration is calculated geometrically. Measurements are only possible in the slices (axial, sagittal, coronal and TSA), but not in the volume view or panoramic view. The length and angular values in displayed layers (MRI) are calculated on the basis of the voxel dimensions defined in the 3D image data set (measuring unit e.g. mm). The accuracy with regard to the anatomical relationships is dependent on these voxel dimensions. The values calculated in the software therefore only reflect the relationships of the voxel data in defined accuracy. The display accuracy is equivalent to 50% of the last decimal place (e.g. if the resolution is 0.1 mm the accuracy is 0.05 mm).

The following measurements can be performed:

- |   |  |
|---|--|
|  | Simple line (start and end point)                  |
|  | Polyline (start, intermediate point and end point) |
|  | Angle (between two straight lines)                 |

The measurements are saved as an annotation. The image needs to be calibrated for the measurements. The symbol shows the calibration type:

- |   |  |
|---|--|
|  | Calibration, geometrically calculated:<br>The known geometry of the image acquisition system (e.g. resolution of the image acquisition mode, magnification factor) is incorporated in the calculation. |
|---|--|

**Calibration with a reference object:**

The known size of a reference object included in the image has been measured and saved.

The reference object must be located in the direct area of the area being measured during imaging.

Rulers can be displayed on calibrated images. Rulers are not available for uncalibrated images or for the measurement unit 'pixels' (px).



Show rulers



Hide rulers

**Perform calibration with a reference object:****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 acquisition.
- › Do not use a panoramic image for the measurement.

1. Click .
2. In the image, click on the start point with the left mouse button.
3. Click with the left mouse button on the end point.
4. Under *Tools* and *Calibration* enter the actual length of the measured length (e.g. the diameter of a steel sphere).
5. Click .  
The values are copied to the image.

**Measuring a simple line:**

1. Click .
2. In the image, click on the start point with the left mouse button.

3. Click with the left mouse button on the end point.

The measured result is displayed directly on the measurement line.

**Measuring a polyline:**

1. Click .
2. In the image, click on the start point with the left mouse button.
3. Use the left mouse button to add as many intermediate points as you want.



In 3D images, you can scroll through the individual layers by holding down the Shift key and using the mouse wheel.

4. Click with the right mouse button on the end point.

The measured result for the overall distance is displayed directly on the measurement line.

**Measuring an angle:**

1. Click .
2. In the image, click on the start point of the first straight line with the left mouse button.
3. Click with the left mouse button on the end point of the first straight line.
4. Click on the start point of the second straight line with the left mouse button.
5. Click with the left mouse button on the end point of the second straight line.  
The angle between the two straight lines is displayed.

**Editing a measurement:**

1. In the image, click on the measurement with the left mouse button.  
This activates the measurement and the anchor points are displayed.
2. To move the anchor point, click on the anchor point with the left mouse button , hold the mouse button and move it.

**Change the display of the measurement:**

1. To change the colour and line thickness, select the measurement in the *Annotations* and click .

**Delete measurement:**

1. Mark the measurement in *Annotations* in order to activate it.
2. Click .

**Drawings**

Drawings can be inserted into the image. All drawings are saved as annotations. The following drawing tools are available:

|  |                          |
|--|--------------------------|
|  | Create free-hand drawing |
|  | Create a line            |
|  | Create an arrow          |
|  | Create a rectangle       |
|  | Create an ellipse        |
|  | Create text              |

**Create free-hand drawing:**

1. Click .
2. In the image, click on the start point of the free-hand drawing using the left mouse button.
3. Keep left mouse button down and create a freehand drawing.
4. Release the mouse button to finish the free-hand drawing.  
The mouse cursor retains the function of the free-hand drawing.
5. To create a second free-hand drawing, press the left mouse button and keep it pressed while you draw.
6. To finish the free-hand drawing, press the right mouse button.

**Create a line:**

1. Click .
2. In the image, click on the start point of the line using the left mouse button.
3. Click on the end point of the line using the left mouse button.

**Create an arrow:**

1. Click .
2. In the image, click on the start point of the arrow using the left mouse button.
3. Click on the endpoint of the arrow using the left mouse button.

**Create a rectangle:**

1. Click .
2. Click in the image with the left mouse button to place the first corner of the rectangle.
3. Move the mouse cursor.  
A preview of the rectangle is displayed.
4. Click with the left mouse button to define the size of the rectangle.

**Create an ellipse:**

1. Click .
2. In the image, click on the start point of the ellipse using the left mouse button.
3. Move the mouse cursor.  
A preview of the ellipse is displayed.
4. Click with the left mouse button to define the size of the ellipse.

**Create text:**

1. Click .
2. Click the left mouse button on the position in the image where the text should begin.  
The text flyout opens.
3. Enter text.  
The text appears in the image and in the text field of the flyout.
4. Set the font size, colour and type (bold **B** or underline U) as required.

**Shift drawing:**

1. In the image, click on the drawing using the left mouse button.  
This activates the drawing and the anchor points are displayed.
2. Keep the mouse cursor  pressed and move the drawing.

3. Release the mouse button.

#### *Edit drawing:*

1. In the image, click on the drawing using the left mouse button.

This activates the drawing and the anchor points are displayed.



The anchor points of pre-hand drawings cannot be edited.

2. To move the anchor point, click on the anchor point with the left mouse button , hold the mouse button and move it.

#### *Change the display of the drawing:*

1. To change the properties (e.g. colour and line thickness), select the drawing in *Annotations* and click .

#### *Delete drawing:*

1. Mark the drawing in *Annotations* in order to activate it.
2. Click .

#### **Edge mask**

X-ray images can be masked at the edges to prevent the occurrence of effects that may hinder diagnosis. The area beyond the edge mask is hidden.

The edge mask can be activated or deactivated. The edge mask is automatically activated for intraoral X-ray images.

The edge mask and background colour can be configured for every X-ray station.

#### **Implants**

For visualisation purposes, implants can be schematically inserted in two-dimensional and three-dimensional images. This function is included in VistaSoft Basis.

Implant planning can be done using VistaSoft Implant / Guide. This requires the purchase of a licence for VistaSoft Implant / Guide (see "7.3 Purchasing a licence for VistaSoft Implant & Guide").

In a CBCT image the implant can only be added in the slices and in the panoramic view, but not in

the volume view. It is shown in all slices and views if it is in the indicated view or slice.

There are two types of implants that can be inserted:



Standard implant (length and diameter can be freely defined)



Implant from manufacturer's database, see "32 Importing implant packages"

The implant is depicted as a cylinder (standard implant) or a 3D model (manufacturer implant, see "32 Importing implant packages"). If the implant is activated then it can be aligned via the two control points (circles).



*Fig. 3: Depiction of a standard implant*

The implant is saved as an annotation. With standard implants it is possible to change the size and colour of the implant, while on manufacturer's implants only the colour can be changed (see "Annotations").

#### *Inserting a standard implant:*

1. Click .

The implant is displayed schematically with the mouse cursor.

2. Use the left mouse button to click on the required point in the image.

The implant is positioned. It is displayed as a cylinder with a diameter of 5 mm and a length of 10 mm. The size, colour and position can be changed (see "Annotations").

#### *Inserting a manufacturer's implant:*

1. Click .

The flyout for selection of the implant opens.

2. Select the manufacturer, product and model.
3. Click *Select implant*.

The flyout closes, the implant is displayed schematically with the mouse cursor.

4. Use the left mouse button to click on the required point in the image.

The implant is positioned. It is shown with the manufacturer's dimensions. The colour can be changed (see "Annotations").

**Deleting an implant:**

1. Click on the implant to activate it.
2. Click .  
or  
Press the Del key.

**Moving an implant:**

1. Move the mouse cursor over the implant. The mouse cursor changes to .
2. Click on the implant between the control points.
3. Hold the mouse button pressed and move the implant.
4. Release the mouse button in the desired position.

**Rotating an implant:**

1. Click on the implant to activate it.
2. Click on a control point, hold the mouse button pressed and rotate the control point around the other control point.
3. With the Alt key pressed, click on the implant and hold the mouse button to rotate the implant around its longitudinal axis.
4. Release the mouse button once the desired position is reached.

**Annotations**

All measurements, nerve channels and implants of an image are saved as annotations. The annotations are displayed in the list and can be called up again.

When an annotation is called up on a 3D image, the views/slices return to the view in which the annotations were drawn.

Every measurement is indicated in the list with the type, colour and numerical value.

**Type of annotation**

-  Simple line

---

-  Polyline

**Type of annotation**

-  Angle

---

-  Nerve channel (3D only)

---

-  Implant

---

-  Panoramic curve

**Display annotation in the image:**

1. Click on an annotation in the list. If the annotation cannot be shown in the current view, the annotation cannot be selected.

**Change the display of an annotation:**

1. Click  next to an annotation in the list. The flyout opens.
2. Select the colour.
3. For lines: select the line thickness.
4. For nerve channels: adjust the diameter of the line.
5. For implants: adjust the diameter and length.
6. Click outside the flyout to close it.

**Edit annotation:**

1. Click on an annotation in the list or an annotation in the image. The anchor points of the annotation are visible.
2. Move the mouse cursor over one of the anchor points of the annotation. The mouse cursor changes to .
3. Press and hold the left mouse button and drag the anchor point to the required position.
4. Release the mouse button.

**Shift annotation:**

1. Click on an annotation in the list or an annotation in the image. The anchor points of the annotation are visible.

2. Click on the annotation between the anchor points.  
The mouse cursor changes to .
3. Press and hold the left mouse button and drag the annotation to the required position.
4. Release the mouse button.

**Delete annotation:**

1. Click .
- This deletes the annotation. The deletion cannot be undone.

## 44.2 Managing default image settings

Default image editing settings are saved for every X-ray station (see also "76.3 Image processing"). Every newly created image will automatically be displayed on the light table with these default settings.

The default settings can also be saved via the light-table menu with the settings on an image:

1. Edit an image as required on the light table.
  2. In the light table menu click  and then .
- The image processing settings will be displayed.
3. Click **Save** to save the image processing settings.
  4. Click **Cancel** to discard the image processing settings.

## 45 Printing images

Images that are open on the light table can be printed out using the function *Print image*. The following print settings can be set up in the dialog window:

|                      |  |
|----------------------|--|
| Printer:             | Select printer.<br>A further printer can be set up in the configuration (see "35.4 Configuring the DICOM printer").  |
| Original image size: | Prints the images in original size; only calibrated images can be selected.<br>If necessary you may need to adjust the paper size in the printer settings. If the image is too large for the print format then the image is cropped.         |
| Landscape format:    | Switches the print layout from portrait to landscape.  |
| Colour:              | Prints the images in colour. If this setting is disabled then the prints will be in black and white.   |
| Copies:              | Enter the number of copies. The default setting is 1.  |
| Printer view:        |  |
| Active image         | The active image on the light table (image is highlighted, the frame is visible) is printed.   |
| Image area           | All images that are open on the light table are printed. The layout corresponds to the one on the light table.   |
| Light table          | The light table is printed out with all images that are open. The layout corresponds to the one on the light table. In contrast to <i>Image area</i> , the complete light table is printed out – including areas containing no image frames. |
| Tabular              | All images on the light table are printed. The number of columns can be adjusted under <i>Images per line</i> .  |
| Print settings       | DICOM printers only: printer settings for the current print order. For information about making general changes to the print settings see "Configuration".   |
| Annotations          | Information about the image, patient and practice that can also be printed.  |
| Contents             | Selection list of the information; this is stated with placeholders (%...%) and then filled with the current information during printing.  |
| Position             | The annotations can be positioned relative to the image (e.g. top right corner of the image) or to the side (e.g. header)  |
| Size                 | Font size for annotations  |

The print settings can be saved as a profile, see "45.2 Using print profiles".

1. Click .  
The dialog window *Print images* opens.
2. Select the required printer via the button *Select...*
3. Select the required print settings.

4. Set up the annotations correctly if required, see "45.1 Setting up the annotations for print output".  
The print preview is updated whenever changes are made to the print settings. To check, you can increase the size of the print preview detail with the mouse wheel and move it by keeping the right mouse button pressed. As long as the dialog window is open, the print preview is also updated directly when changes are made on the light table.
5. Click the button *Print* to start the print task.



On CBCT images (3D) only the print view *Actives image* is possible. Auxiliary lines and rulers are not printed.

## 45.1 Setting up the annotations for print output

Annotations can be added for printing (e.g. patient name, tooth, diagnosis). The annotations set up are retained in the dialog window.

1. In the dialog window *Print images* fold open the group Annotations.
2. Click .
3. Select content, position and size.
4. To add further lines, click  again and select the content, position and size.
5. To change the order of the annotations, click .
6. To delete a line of annotations, click .

## 45.2 Using print profiles

There are two predefined profiles for which print settings are saved.

- Colour printing
- Greyscale printing

Changes to the print settings are saved in the active profile when the dialog window is closed. The profiles are saved separately for each practice.

Further print profiles can be created, edited and deleted.

1. Select a profile from the selection list.

### *Creating a new profile:*

1. Click .

A profile with the name *New print profile* has been created and is active.

2. Change the profile name and print settings as required.

### *Rename profile:*

1. Click  next to the profile name.
2. Change the profile name.
3. Press the enter key to save the change.
4. Press the Esc key to discard the change.

### *Duplicating a profile:*

1. Select the profile you wish to copy.

2. Click Duplicate.

3. The duplicated profile is active. The profile name is appended, e.g. with a (1).

### *Delete profile:*

1. Select the profile.
2. Click .

## 46 Uploading an image to the cloud

Images opened on the light table can be uploaded to the cloud to share them with others, e.g. with colleagues, laboratories, clinics or patients. The recipient is informed by email. The uploaded image data can be viewed and downloaded via a browser in VistaSoft Cloud View.



### CAUTION

**Personal injury may occur as the result of altered images or data (cybersecurity)**

› Do not use data for diagnosis

Notes on data protection:

- All data is anonymized before being transferred to the cloud. There is therefore no way for recipients to match the data to the patient.
- A secure protocol (HTTPS) is used for data transfer.
- The data can be encrypted with a password.

Requirements:

- ✓ Dürr Dental ID linked to corresponding subscription

1. Display the image on the light table.
2. Click  in the light table menu.  
A flyout will open.
3. Enter the email address of the recipient.  
It is also possible to enter multiple email addresses.
4. If you wish, enter a comment for the recipient.



Do not include any patient data in the comment as this would compromise anonymity.

5. Select image state, X-ray format and compression if necessary.  
These settings depend on the individual image type and may not be available in some cases.
6. If the image should be encrypted, enter the password.  
Send the password separately to the recipient.

7. Click *Upload*.

The image will be uploaded to the cloud.  
The recipient will receive an email with a link to open the image in *VistaSoft Cloud View*.  
If the image has been encrypted, the recipient will need the password to open the image.

## 47 Displaying the X-ray report

The X-ray report displays all images, along with the date, exposure values, X-ray station and indications.

1. Click  in the ribbon.  
The *X-ray report* flyout will open.
2. Select the sorting method you require.
3. If necessary, activate the check boxes for the time period (from ...to).  
A beginning and end date can be entered. If the check box has been deactivated (default option), all images will be included.
4. If necessary, tick the *X-ray stations* check box.  
After ticking the *X-ray stations* check box, you have to activate the X-ray stations you require.  
If this check box has been ticked, the X-ray report will be created for the selected X-ray stations. If this check box has been deactivated (default option), all X-ray stations will be included when the report is created.
5. If necessary, tick the *Patient record* check box.  
Once you have ticked this check box you can search for the patient record you require.  
The procedure for searching for patient records is the same as the patient data management search procedure (see "18.3 Searching for and logging into a patient record").  
If this check box has been ticked, the X-ray report will be created for the selected patient records. If this check box has been deactivated (default setting), all patient records will be included when the report is created.
6. Click on *Show report*.  
The X-ray report will be displayed with the selected settings.

## 48 Change practice (surgery)

If multiple practices (surgeries) have been created you can switch between them.

The following conditions must be fulfilled in order to switch practice:

- ✓ No active X-ray acquisition
- ✓ No active video acquisition

1. Click .  
The practice is logged out and the log-in screen opens.
2. Under *Practice* select the practice you wish to log in.
3. If user management is enabled, enter the user and password.
4. Click *Login*.

## 49 Using the VDDS-media interface to practice management program



### CAUTION

**Personal injury is possible due to wrong assignment of image data to a patient**

- › Check the right assignment of the image data (e. g. during image import, change of patient data new assignment of image data to a patient).
- › Observe the information displayed in the software.

Depending on the options available in the practice management program (PVS), patient data and image data can be exchanged via the VDDS media interface between the imaging software and the practice management program:

- Importing patient data from PVS into the imaging software and requesting image acquisitions, see "37.2 Importing patient data".
- Opening a patient image from PVS in the imaging software, see "37.2 Importing patient data".
- Transferring images from the imaging software to PVS and transferring changes made to images (see "39.4 Transferring images to the practice management software", "39.7 Multiple selection").

The VDDS media interface must be configured in the practice management program and in the imaging software for this purpose (see "77 Interfaces").



For information about the configuration and handling of the interface in the practice management program, please refer to the relevant PVS handbook.



When opened, the PVS is checked for changes.

If the PVS has changed, a dialog window will open, see also "Check third-party software for changes".

## 50 Creating a support file

In the event of a fault a support file can be created. This can be forwarded to the support/service technician for diagnosis.

1. Click the entry in the start menu *Start > All programs > VistaSoft > Create support file*. or  
Click  >  in the software.

A .safe file with all the required files and data is created on the desktop.

This file is encrypted to protect it during transmission in case it contains any personal data.

2. Send the file created in this way to the support/service technician.

## 51 Using 3Shape integration

If the feature “3Shape integration” is activated (see “80.1 3Shape integration”), then VistaSoft can be used to initiate a surface scan with a 3Shape intraoral scanner. This 3Shape case is linked to the patient in VistaSoft and can be opened via the image inspector in 3Shape.

### 51.1 Creating a 3Shape case

Requirements:

- ✓ You are logged into the patient record
- ✓ 3Shape integration active

1. Click  in the menu bar.
2. If multiple 3Shape Dental Desktop clients are available then select the required client in the flyout.  
The patient is created/opened in 3Shape. A new 3Shape case is created.
3. Create a surface scan in 3Shape.

**Result:**

After the next login for the patient the 3Shape case is displayed in the image inspector.

### 51.2 Opening a 3Shape case

3Shape cases that have been created via the 3Shape integration are called up during login of the patient and displayed in the image inspector with the 3Shape symbol. The data is managed in 3Shape and can be opened at any time again in 3Shape via the image inspector.

Requirements:

- ✓ You are logged into the patient record
- ✓ 3Shape integration active

1. Click on the 3Shape case in the image inspector.
2. If multiple 3Shape Dental Desktop clients are available then select the required client in the flyout.

**Result:**

The case is opened in 3Shape and can be edited.



## VistaSoft Connect

VistaSoft Connect receives orders from third-party applications to generate images using imaging device systems from Dürr Dental. The job data is transmitted from the calling third-party application to VistaSoft. VistaSoft creates a new patient on the basis of the job data or assigns the job to an existing patient.

## 52 Installing VistaSoft Connect

1. Open the installation package (VistaSoft\_\*.iso).
2. Start the file **Start.exe**.
3. Click **Install VistaSoft**.  
The setup wizard is launched.
4. Select the installation language you require.
5. Select the option **Install VistaSoft Connect**.
6. Click **Next**.
7. Accept the Licence Agreement.
8. Accept the Data Protection Declaration.
9. Specify the installation directory.  
The software is located in the installation directory.  
The path can be amended by clicking on ....
10. Select the installation data directory.  
The installation data directory must not point to a network path. It contains and saves all the software settings (e.g. window sizes, window positions, etc.). It does not contain the image data database. This is created and/or queried when the software is launched for the first time.  
The path can be amended by clicking on ....
11. Activate all the devices that are to be installed in order to work with them on this computer.  
The device drivers are automatically installed; there is no need for manual driver installation. The units can be used immediately after installation.  
When **VistaVox / ProVecta 3D Prime** is selected, the computer is checked against the system requirements. If the minimum requirements are not met, a warning is displayed and the installation can be continued with or without the additional component. We recommend that you do not install VistaVox / ProVecta 3D Prime.
12. Select the optional components you wish to install.  
Mobile Connect: Software for connecting the Dürr Dental Imaging iPad app to the VistaSoft database  
 MobileConnect cannot be combined with VistaVox / ProVecta 3D Prime.
13. If **VistaPano S / ProVecta S-Pan** is activated in the device list, select the variant that is connected to the workstation.
14. In the overview, check the installation directories, components and devices that are to be installed.  
If an entry needs to be changed again, click **Back** to navigate to the relevant point and change the entry.
15. Click **Install**.  
The software will then be installed. In addition, VistaSoft Inspect is also installed (software for performing and archiving acceptance checks and consistency checks on the image reproduction and X-ray system).
16. Click **Finish** to complete the installation.
17. Continue with "53 Launching the software for the first time".

## 53 Launching the software for the first time

The installation is completed when the software is run for the first time.

Here, a setting is chosen that cannot be changed again afterwards:

- Operating mode (single workstation, server or client / terminal server):  
Depending on the operating mode, the system then either creates the database or sets up the connection to the database on the server.  
For a terminal server installation, the environment variable is defined (client name or username).

1. Start the software (see "16 Starting the software").
2. Under *Select operating mode* select the required option.
3. Click *Finish*.
4. Confirm the installation of VistaSoft Monitor by clicking *OK*.

The VistaSoft Monitor software for monitoring of connected devices is downloaded and installed. If no Internet connection is available then the software can also be downloaded and installed later on.

## 54 Configuration

VistaSoft Connect is automatically pre-configured:

- Practice *VistaSoft Connect*
  - Database directory C:\VistaSoftData
  - User management deactivated
1. License the software, see "7 Licensing".
  2. For the remaining configurations see "77.2 VistaSoft Connect".

## 55 Using VistaSoft Connect



VistaSoft Connect can only be used if the configuration requirements have been met, see "Limitations of the minimal Connect interface".

If the option **Complete patient data** is activated (see "77.2 VistaSoft Connect") and the third-party application fails to supply a complete patient data record, the patient data is requested in a flyout:

- Patient ID
- First name
- Surname
- Date of birth

If the job data does not contain any patient data and the option **Complete patient data** is deactivated, then the new patient is created as follows:

- Name: VistaSoft Connect Patient
- Patient ID: Date and time of the task (YYYYMMDD-HHMMSS)
- Date of birth: Date of the task

If no patient is logged in, the patient is registered automatically and acquisition of the X-ray image starts. By completing the VistaSoft Connect task, the VistaSoft Connect patient is logged out and the image data defined in the task is exported. It can then be imported by the third-party application.

If **Automatic dose calculation** is activated (see "78.1 Configuration") and the X-ray image acquisition device supports the function, the incident dose at the image receiver is also sent to the third-party application together with the image data.

If the minimal interface is activated in the configuration (see "77.2 VistaSoft Connect") and the software interface is closed (only active in the taskbar), only the minimal interface opens during a VistaSoft Connect task (see "55.3 Use the minimal interface"). Logging the patient in/out then takes place in the background.

You can set the retention period for image data in VistaSoft Connect, see "78.1 Configuration".

### 55.1 Creating an image with VistaSoft Connect

Requirements

- ✓ No patient registered

1. Start the job sent from the third-party application to VistaSoft Connect.

The patient is logged in.

The patient data are compared with the patients already registered. Patients with matches are shown in the list of results. If exactly one patient is found, the data are transferred.

2. If necessary, select a patient from the list of results.
3. If the patient data are incomplete, add the missing patient data as required.
4. If not defined in the task, select the acquisition type, acquisition source and acquisition mode.

Acquisition starts.

5. Create image, see also "41 Acquiring images".

Depending on the configuration (see "77.2 VistaSoft Connect") the image acquisition is either stopped automatically or needs to be closed via **Stop acquisition**.

6. Edit the image as required using the tools from the toolbox, see "44 Editing images".
7. Click  **VistaSoft Complete Connect order**.

**Result:**

The image data is exported to the third-party application.

The patient is logged out.

### 55.2 Creating an image in the SmartScan workflow with VistaSoft Connect



The SmartScan workflow with VistaSoft Connect is not suitable for single workstation installation.

Requirements

- ✓ No patient registered

1. Start the job sent from the third-party application to VistaSoft Connect.

The patient is logged in.

The patient data are compared with the patients already registered. Patients with matches are shown in the list of results. If exactly one patient is found, the data are transferred.

2. If necessary, select a patient from the list of results.

3. If the patient data are incomplete, add the missing patient data as required.

The dialogue window *Assign image plate to patient in SmartScan workflow* opens up. The status LED Smart Reader lights up green .

4. Present the image plate to the Smart Reader.

The image plate is assigned to the logged-in patient.

The status LED Smart Reader lights up green , ascending audio signal is heard  (if configured).

5. Close the dialogue window.

6. Create an X-ray image.

7. Import the X-ray image at the image plate scanner.



For more information about this refer to the installation and operating instructions for the device.

8. Create X-ray image, see also "41 Acquiring images".

The image is displayed in the image archive and is opened on the light table.

9. If the image is marked with  in the image archive, enter X-ray parameters, see "Enter X-ray parameters/image information".

10. Edit the image as required using the tools from the toolbox, see "44 Editing images".

11. Click  *VistaSoft Complete Connect order*.

**Result:**

The image data is exported to the third-party application.

The patient is logged out.

### 55.3 Use the minimal interface

Requirements:

- ✓ Software interface closed (active in the taskbar)

1. Start the job sent from the third-party application to VistaSoft Connect.

The minimal interface opens. Acquisition starts.

2. If not defined in the task, select the acquisition type, acquisition source and acquisition mode.

3. Create image, see also "41 Acquiring images".

4. Click on *Stop acquisition*.

**Result:**

The image data is exported to the third-party application. The minimal interface is closed.

A windows notification informs you that the task has been concluded.

A Windows notification appears when the automatic image plate quality check changes the state of the image plate.

**Limitations of the minimal Connect interface**

The minimal Connect interface can only be used if the following conditions apply:

- Only one practice is created
- User management is deactivated (only one user without password)
- X-ray parameters are not mandatory (see "78 Practices")

### 55.4 Importing and restoring images

**Importing an image from the device memory (standalone / retrieve)**

If there is an image on the device memory of a device, it can be imported to the active Connect task.

1. Start the job sent from the third-party application to VistaSoft Connect.

The patient is logged in. Acquisition starts.

2. Click  in the imaging window.

3. Select the device.

4. In the flyout select the images that are to be imported.

5. Click *Complete VistaSoft Connect task*.

**Result:**

The image data is exported to the third-party application.

The patient is logged out.

**Importing an image from the image cache (cache image import)**

If it is not possible to transfer an image to the server or to the third-party application after it is created, then the image will be saved in the image cache of the workstation (see "73.1 Image cache").

1. Start the job sent from the third-party application to VistaSoft Connect.  
The patient is logged in.
2. Click  in the imaging window.
3. In the flyout select the images that are to be imported.
4. Click *Complete VistaSoft Connect task*.

**Result:**

The image data is exported to the third-party application.

The patient is logged out.



Images from VistaSoft Connect tasks cannot be restored.



## VistaSoft Inspect acceptance and consistency check

With VistaSoft Inspect it is possible to perform acceptance tests, consistency checks and partial acceptance tests on the image reproduction and X-ray system in full. No third-party software is required for this.

With VistaSoft Inspect you can carry out the following tests:

- Acceptance test of the image reproduction and X-ray system
  - "59.1 Perform acceptance test"
- Consistency checking of the image reproduction and X-ray system
  - "59.2 Performing a consistency check"
- Partial acceptance test of the image reproduction and X-ray system
  - "59.3 Performing a partial acceptance check"

Here, VistaSoft Inspect detects which device is being tested and adapts the test that is to be performed to the requirements of the device.

VistaSoft Inspect offers the additional opportunity to check the condition of the image plates:

- "62 Perform plate surface quality check"

The following standards are primarily applicable with the acceptance test:

- DIN 6868-151: Acceptance test in accordance with RÖV on dental X-ray equipment
- DIN 6868-161: Acceptance test in accordance with RÖV of dental X-ray units for digital volume tomography
- DIN 6868-157: Acceptance test and consistency check of the image playback system

The following standards are primarily applicable in the consistency check:

- DIN 6868-5: Consistency check according to X-Ray Ordinance (RÖV) on dental X-ray equipment
- DIN 6868-15: Consistency check in accordance with the X-Ray Ordinance (RÖV) on dental X-ray equipment for digital volume tomography
- DIN 6868-157: Acceptance test and consistency check of the image playback system

The following guidelines and directives apply as well:

- Radiation Protection Act (StrlSchG)
- Radiation Protection Ordinance (StrlSchV)
- Guidelines for Expert Qualifications (Sachverständigen-Richtlinie, SV-RL)
- Quality Assurance Guidelines (Qualitätssicherung-Richtlinie, QS-RL)
- Specialist Knowledge Guidelines (Fachkunde-Richtlinie, FK-RL)

## 56 Notes on use

From the start page of VistaSoft Inspect you can switch directly to the different checks:



Monitor test

Checks of the image reproduction systems



Acceptance and consistency checks

Checks of the X-ray systems



Plate surface quality check

The software checks the validity of the checks and reminds you when checks are due (provided this has been configured, see "Acceptance and consistency check").

If no checks are present or the checks are no longer valid, the number of due checks is displayed.



The **menu bar** is divided into two areas:

- The left-hand part of the menu bar contains the navigation. Here you can switch directly from the current position to the higher levels.
- The configuration and help functions can be accessed via the area on the right of the menu bar:

#### Right-hand section



Configuration (see "58 Configuring VistaSoft Inspect")



Help



Display help



Create support file (see "50 Creating a support file")



Supported devices



Show Info dialog

## 57 Launching VistaSoft Inspect

There are two ways to launch the software:

- By clicking on the icon on the desktop
- Go to the entry in the start menu: *Start > All programs > VistaSoft Inspect > VistaSoft Inspect*

Requirements:

- ✓ VistaSoft is configured (it has been opened for the first time)
- ✓ VistaSoft is not running

1. Double click on the icon on the desktop or select the relevant item from the Start menu.

## 58 Configuring VistaSoft Inspect

The following configurations are required in order to perform acceptance tests and consistency checks with VistaSoft:

- "58.1 Creating X-ray stations"
- "58.2 Configuring the monitor test"

For information about further configuration options refer to "63 VistaSoft Inspect configuration overview"



If a corresponding configuration is already present VistaSoft, e.g. X-ray stations, this will be adopted by VistaSoft Inspect.

### 58.1 Creating X-ray stations

The X-ray stations from VistaSoft are automatically displayed in VistaSoft Inspect.

If X-ray stations are created in VistaSoft Inspect they are displayed automatically in VistaSoft.

An X-ray station always comprises the following:

- X-ray emitter
- Image acquisition device
- Operator information

Here, e.g. an X-ray emitter can be combined with different image plate scanners or one image plate scanner can be combined with different X-ray emitters into multiple X-ray stations.

The X-ray station marked as the favourite is displayed first in the selection list when the tests are started.

In the X-ray station configuration you can create, configure and delete X-ray stations. This works in exactly the same way as in the imaging software. See "30 X-ray stations".

1. Click on *X-ray stations* on the start page. or Click  > *X-ray stations*.

See also:

- "30.1 Create an X-ray station"
- "30.2 Configuring an X-ray station"
- "30.3 Entering recommended values for X-ray parameters"
- "30.4 Deleting an X-ray station"

## 58.2 Configuring the monitor test

If the work station is a diagnosis station, the monitor check must be performed at regular intervals. The basic setting that the work station is a diagnosis station is performed in the configuration , see "Acceptance and consistency check".

In the case of a multi-station installation, the monitor check are stored centrally on the server. In the configuration you can edit information about the workstation in the practice/clinic. These are saved and reused during subsequent tests.

1. Click  **Monitor test**.

The **Monitor test** window opens.

"System" tab:

1. Enter all of the information for the practice/clinic.
2. Under **Room class** check the option **Diagnostic workstation (RK5)** or **Treatment room (RK6)** depending on the room in which the monitors are located.
3. Under **Test cycles** choose the required test and enter to the right of it the frequency at which you want the test to be performed.
4. Under **Warm-up phase** enter the time after which the tests can be started at the earliest.
5. Place a tick next to DIN 6868-57 if the tests are to be carried out in accordance with this standard. By default testing is performed in accordance with DIN 6868-157.

"Monitor" tab:

1. Under **Monitor** select the monitor for which the subsequent settings are to be made.
2. Check all entries and correct or add information as required. In some cases, older monitors may not provide all the information.

"Acquisition source" tab:

1. Enter the software used (including the version) in the area **Application software**.
2. Click **Save** to close the configuration.

## 59 Acceptance and consistency checks

The start page of the acceptance and consistency checks provides an overview of the X-ray stations and the associated checks and tests.

On opening, the list of X-ray stations is sorted by the due date of the checks/tests. If a check/test is due at an X-ray station, the status is highlighted with .

In the details area the current status and the progress of the checks/tests are displayed.

Via the button **Configure X-ray stations...** you can jump directly to the configuration screen for the X-ray stations (see also "58.1 Creating X-ray stations").



An access code (technician password) is required in order to perform an acceptance test and a partial acceptance test.

The access code is required once after every restart of the software if an acceptance test or partial acceptance test is being processed.

The access code is made up as follows: current date (day and month) in reverse sequence. For example: 03 May = 03.05. Access code: "5030"

### 59.1 Perform acceptance test

A complete acceptance test comprises the acceptance test of the image reproduction system and the acceptance test of the X-ray system. The acceptance test needs to be carried out at the following times:

- Before starting up an X-ray system for the first time
- When moving the system to a different location
- If the operating company changes (additional expert qualifications are required in this case)



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

## Performing the acceptance test for the image reproduction system

The main goals of the acceptance test for the image reproduction system (IRS) in accordance with DIN 6868-157 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 consistency checks

1. Click  **Monitor test**.
2. Under **User** enter the name of the tester.
3. Under **Monitor** select the monitor for which the test is to be performed.
4. Select the required test.  
DIN 6868-157: Acceptance test, acceptance test of multiple monitors  
DIN 6868-57: Acceptance test
5. Click **Start**.  
The test is started.
6. Answer the questions based on the test images.
7. Click **Continue** to proceed with the wizard.
8. Once the test has been successfully completed, click **Close** to close the **Monitor test** window.

## Performing the acceptance test for the X-ray system

The main goals of the acceptance test of the X-ray system 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 consistency checks
- Quality assurance for the system

 You can exit from the acceptance test at any time using the navigation bar. This interrupts an ongoing acceptance test, but the test can be continued at a later point in time.

## Creating a new acceptance test:

1. Click  **Acceptance and consistency tests**.
2. From the list select the X-ray station for which an acceptance test is to be performed.
3. In the details area click **Start**.  
or  
In the footer, select **Start new test ... > Acceptance check**.
4. Enter the access code (technician password) if required.
5. If the incident dose at the image receiver is to be calculated automatically (in accordance with StrlSchV / Radiation Protection Regulation § 114 section 1), under **Calibration for automatic calculation of the incident dose at the image receiver** select **Apply**. (Refer also to the practice configuration "78.1 Configuration")  
If the image acquisition device has already been calibrated at the factory, this option is **not required**.  
If the image acquisition device has already been calibrated, this option is no longer available for selection.
6. Under **Resolution** select the monitor with which the acceptance test is to be performed.  
If the connected monitor is not displayed then you can also enter the resolution manually instead.
7. Enter the brightness and contrast of the monitor under **Brightness/contrast**.
8. If all of the data has been correctly entered, click **Start acceptance test**.

The acceptance test opens with the **X-ray image acquisition** registration card. You can change between the individual registration cards at any time.

 The questions posed in the acceptance test depend on the X-ray system.

### Taking and checking an X-ray image:

1. Under *X-ray image acquisition* click .  
(See also "59.4 Notes on creating an X-ray image")  
X-ray image acquisition will now start. The preview window opens up. The acquisition mode is permanently stored in the Dürr Dental and Air Techniques devices. With VistaPano/ProVecta S-Pan and VistaVox/ProVecta 3D Prime, the current strength and voltage can be altered on the unit if necessary.
2. Import all images.
3. Once you have finished recording the last image, click *Finish imaging*.  
The preview window is closed. All acquired images are transferred to the image archive. From there, the images can then be opened on the light table and edited. Similarly, it is also possible to edit the image information (see "Displaying and editing image information") or delete images.  
The image processing saved in the X-ray station is automatically applied to the images. If the image acquisition device defines its own image processing settings then these are used.  
The first image is automatically marked as a reference image. Alternatively, you can use the check box   to select any other image as a reference image.  
 As long as the acceptance test has not been completed, new images can be imported at any time.
4. If the X-ray parameters have not been entered automatically (by the device or with the suggested values from the X-ray station), enter the X-ray parameters in the image information .
5. If the option *Activate equivalent dose measurement* is active then measure the equivalent dose, see "Dose equivalent".
6. If the option *Automatic calculation of the incident dose at the image receiver from the image data* is enabled (see "78.1 Configuration") then perform the dose calibration – see "Dose calibration".

7. To enter the X-ray parameters for all images of the acceptance test, click *Apply to all images*.  
When you exit the *X-ray image acquisition* tab the X-ray parameters are saved and can no longer be changed.
8. Answer all of the questions in the lower area. In order to answer the questions you can change the images using the tools in the toolbox (see "44.1 Toolbox").
9. Importing aperture images if necessary (see "Importing aperture images").

### Visual inspection and test measurement:

1. Change to *Visual test and measurement test*.
2. Answer all the questions and enter the measured values.

### Entering general information:

1. Change to *General information about the test*.
2. Fill in all the fields.

### Concluding the acceptance test:

-  The test can only be completed if all fields have been properly filled in. If the mandatory fields are not filled in or they are only filled in partially, the symbol  appears next to the tabs.
1. Save the acceptance test by clicking on *Finish test*.  
The test is completed and saved. Once this has been done it cannot be changed any more.

## 59.2 Performing a consistency check

A complete consistency check comprises the consistency check of the image reproduction system and the consistency check of the X-ray system.

### Performing a consistency check on the image reproduction system

The consistency check on the image reproduction system (IRS) in accordance with DIN 6868-157 comprises two different test procedures, which are normally performed every working day and on a yearly basis.

Daily test: visual inspection of a test image on the image reproduction device

Yearly test: measurement of the luminous density and illuminance of the image reproduction device and its surroundings (based on the requirements of the acceptance test)

1. Click  **Monitor test**.
2. Under **User** enter the name of the tester.
3. Under **Monitor** select the monitor for which the test is to be performed.
4. Select the required test.  
DIN 6868-157: daily testing, 6-monthly testing, yearly testing  
DIN 6868-57: daily testing, monthly testing
5. Click **Start**.  
The test is started.
6. Answer the questions based on the test image.
7. Click **Continue** to proceed with the wizard.
8. Once the test has been successfully completed, click **Close** to close the **Monitor test** window.

### Performing a consistency check on the X-ray test

Consistency checking is carried out by taking X-ray exposures of the test phantom using the same dosing parameters as used for the acceptance test (benchmark values). The recorded consistency check 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 consistency check image is clearly labelled by the software.

The requisite tests are determined by the local law. Carry out testing in accordance with local rules and regulations.

-  You can exit from the consistency check at any time using the navigation bar. This discards the commenced consistency check and the check cannot be continued at a later point in time.

-  A consistency check can only be performed if a completed valid acceptance test/partial acceptance check result is available.

1. Click  **Acceptance and consistency tests**.

#### Creating a new consistency check:

1. From the list select the X-ray station.
2. In the details area click **Start**.  
or  
In the footer select **Start new test ...** Click > **Consistency test**.
3. Click **Start consistency check**.

The consistency check opens with the tab **X-ray image acquisition**. You can change between the individual registration cards at any time.

If comments were entered by the tester during the acceptance test these are displayed in a flyout. These comments can be opened again at any time via **Acceptance test comments**.

-  The questions posed in the consistency check depend on the X-ray system.

#### Taking and checking an X-ray:

-  New images can be imported at any time. Here, the previously imported image is overwritten.

1. Under **X-ray image acquisition** click .  
(See also "59.4 Notes on creating an X-ray image")  
X-ray image acquisition will now start. The preview window opens up.  
The acquisition mode of the reference image is used as the acquisition mode for the consistency check.
2. Import the image.

**3.** Click on *Stop acquisition*.

The preview window is closed. The image is automatically opened on the lightbox. If an image is already present on the lightbox, this is discarded and replaced by the new image. The image can be edited. Similarly, the image information can be edited via the functions in the light table menu (see "Editing image information in the image inspector").

The same image processing with which the reference image was processed is automatically applied to the image.

The X-ray parameters from the reference image or from the image acquisition device (if the device also sends the X-ray parameters to the device) are applied.

- 4.** Answer all of the questions in the lower area. The image of the consistency check and the reference image of the acceptance test are depicted on the lightbox (except for CBCT) for the purposes of image comparison.
- 5.** If the option *Activate equivalent dose measurement* is active then measure the equivalent dose, see "Dose equivalent".
- 6.** On CBCT X-ray systems import aperture images if necessary (see "Importing aperture images").

**Visual inspection and test measurement:**

- 1.** Change to *Visual test and measurement test*.
- 2.** Answer all of the questions. In order to answer the questions you can change the images using the tools in the toolbox (see "44.1 Toolbox").

**Finalise consistency check:**

The test can only be completed if all fields have been properly filled in. If the mandatory fields are not filled in or they are only filled in partially, the icon  appears next to the tabs.

- 1.** Save the consistency check by clicking on *Complete test*.  
The test is completed and saved. Once this has been done it cannot be changed any more.

**59.3 Performing a 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 consistency check 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).



A partial acceptance check can only be performed if a completed acceptance test result or partial acceptance check result is available.

Here, the partial acceptance check is pre-populated with the data from the previous test (last acceptance or partial acceptance check). You only need to edit entries that need to be changed.

- 1.** Click  *Acceptance and consistency tests*.

**Creating a partial acceptance check:**

- 1.** From the list select the X-ray station for which a partial acceptance test is to be performed.
- 2.** In the footer, select *Start new test ... > Partial acceptance test*.
- 3.** Enter the access code (technician password) if required.
- 4.** Under *Resolution* and *Brightness/contrast* check that the data is correct. If necessary select or enter the correct data.
- 5.** If all of the data has been correctly entered, click *Start partial acceptance check*.

The partial acceptance check opens with the *X-ray image acquisition* registration card. You can change between the individual registration cards at any time.



The questions posed in the partial acceptance check depend on the X-ray system.

### Taking and checking an X-ray image:

1. Under *X-ray image acquisition* click .  
(See also "59.4 Notes on creating an X-ray image")

X-ray image acquisition will now start. The preview window opens up. The acquisition mode is permanently stored in the Dürr Dental and Air Techniques devices.

2. Import all images.
3. Once you have finished recording the last image, click *Finish imaging*.

The preview window is closed. All acquired images are transferred to the image archive. From there, the images can then be opened on the light table and edited. Similarly, it is also possible to edit the image information (see "Displaying and editing image information") or delete images.

The image processing saved in the X-ray station is automatically applied to the images. If the image acquisition device defines its own image processing settings then these are used.

The first image is automatically marked as a reference image. Alternatively, you can use the check box   to select any other image as a reference image.

 As long as the acceptance test has not been completed, new images can be imported at any time.

4. If the X-ray parameters have not been entered automatically (by the device or with the suggested values from the X-ray station), enter the X-ray parameters in the image information .
5. To enter the X-ray parameters for all images of the partial acceptance check, click *Apply to all images*.  
When you exit the *X-ray image acquisition* tab the X-ray parameters are saved and can no longer be changed.
6. Check all of the questions in the lower area. If necessary select or enter the correct data. In order to answer the questions you can change the images using the tools in the toolbox (see "44.1 Toolbox").
7. Importing aperture images if necessary (see "Importing aperture images").

### Visual inspection and test measurement:

1. Change to *Visual test and measurement test*.
2. Check all of the questions. If necessary select or enter the correct data.

### Entering general information:

1. Change to *General information about the test*.
2. Fill in all the fields.

### Conducting a partial acceptance check:

 The test can only be completed if all fields have been properly filled in. If the mandatory fields are not filled in or they are only filled in partially, the symbol  appears next to the tabs.

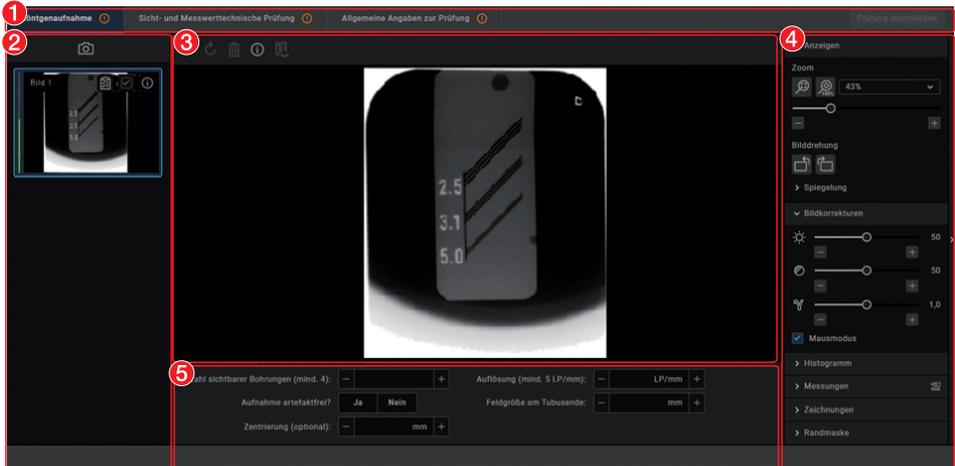
1. Save the partial acceptance check by clicking on *Finish test*.

The test is completed and saved. Once this has been done it cannot be changed any more.

## 59.4 Notes on creating an X-ray image

The tests of the X-ray system (acceptance test, partial acceptance check and consistency check) are made up of various tabs. A test always opens with the tab *X-ray image acquisition*.

The X-ray image acquisition tab has a similar layout to the user interface of the imaging software.



- 1 Tabs for the test
- 2 "Image inspector"
- 3 "Light table"
- 4 "Toolbox"
- 5 Image details

## Image inspector

All of the images for the current test are displayed in the image inspector. The image designation is displayed on the images if it is entered in the image information (i). It is possible to select the reference image and edit image information as long as the test has not yet been completed.

 Displaying and editing image information

  Image is the reference image for the test

Image is not the reference image for the test

## Light table

If an image is selected in the image inspector (blue surround) then this image is displayed on the light table. Only one image can be displayed at a time on the light table of the acceptance checks and consistency checks.

CBCT images are always displayed as an axial MPR slice. You can navigate in the view using the mouse:

 Scroll layers Press and hold the left mouse button in the view to scroll through the layers.

The number of the layer is displayed on the bottom left-hand during scrolling.

 Tilt slice plane Press and hold the left mouse button in the edge region of the view to turn the slice plane.

Questions and details for the active image are displayed under the light table.

The light-table menu features various commands for the images displayed on the light table:

  Repeat or undo actions

 Delete image

 Displaying and editing image information

 Displaying the currently acquired image and the reference image side-by-side or one above the other (for the consistency check only)



Displaying or hiding measurements



## Toolbox

The toolbox contains tools for editing the images on the light table.

The tools are divided into the following groups and can be expanded or collapsed by clicking



- "Display"
- "Image corrections"
- "Histogram"
- "Measurements"
- "Drawings"
- "Edge mask"
- "Dose equivalent" (only if equivalent dose measurements are enabled in the configuration)
- "Dose calibration"

The edited image is saved with the preview in the image inspector as soon as the user switches to the next registration card of the test or the test itself is closed.

## Display

These tools allow you to alter the image view.

The zoom tools change the size that the image is displayed on the light table. The settings are not saved.

The settings for rotating and inverting an image are saved.

The zoom tools in CBCT images (3D) can be used for all views. If the option **Same zoom in all views** is enabled, then all views, except panoramic and volume view, are displayed at the same zoom factor. If the option is disabled, each view can be changed individually. The tools for image rotation and mirroring are not available for CBCT images (for information on how to rotate a slice, see "Navigating in CBCT images (3D)").

## Zoom



This matches the size of the image to the size of the window.

**Zoom**

This magnifies the image so that one screen pixel equals one image pixel. Is displayed centred in the window.



The current zoom factor is displayed. A defined zoom factor can be selected.



The zoom can be adjusted to any required setting via the slider. You can also use the mouse wheel to adjust the zoom.

**Rotate image**

Rotate the image anti-clockwise by 90°.



Rotate the image clockwise by 90°.

**Mirroring**

Horizontally invert the image



Vertically invert the image

**Image corrections**

The image brightness, contrast and gamma can be corrected. As you adjust the sliders, you can see the changes directly in the image itself.



Adjust the image brightness



Adjust the image contrast



Adjust the image gamma value  
< 1: Bright areas become darker  
> 1: Dark areas become brighter

**Mouse mode**

Brightness and contrast can also be changed directly in the image using the left mouse button. For this purpose, go to *Toolbox > Image corrections* and enable the option *Mouse mode*. When the left mouse button is held down, making horizontal motions over the image changes the brightness, while vertical motions adjust the contrast. The sliders in the toolbox move along accordingly.

**Mouse mode**

This option can be enabled separately for 2D X-ray/video images and for 3D X-ray images. It is preset for 2D X-ray/video images.

**Histogram**

The histogram shows the brightness distribution of the image.

Histogram windowing allows you to alter the image's grey scale values. The *black limit* shows the percentage of grey scale values changing to black, and the *white limit* shows the percentage of grey scale values changing to white. The limits can be altered to suit your requirements. The settings you have applied will be immediately apparent in the X-ray image on the light table.

The changes this makes to the image can emphasize structures that are otherwise too small to be distinguished by the human eye so that they can be identified.

If a filter is used then the histogram is automatically recalculated.

The image processing can be saved with the changes you have made (see "44.2 Managing default image settings"). To prevent the quality of future X-ray images being impaired excessively by the saved image processing, both limits are restricted to 10% on saving.

**Editing a histogram:**

1. Use the two sliders to adjust the black and white limits.
2. To move the entire selected range between the black and white limits click  in the middle of the region and move it with the mouse button pressed.

## Measurements

Depending on the image, the following should be considered for measurements:

- The size and resolution of the image depends on the image acquisition device (see the operating instructions of the respective device).
- **2D X-ray images:** In order to estimate lengths and angles in 2D X-ray images, the image needs to be calibrated with the aid of a reference image object. Despite calibration, this estimation does not show the accuracy of a measurement and must not be used as a measured result. The accuracy depends greatly on the projection distortion of the object on the image detector area.
- **Video image:** In video images, lengths and angles cannot be estimated to scale.
- **Panoramic X-ray images** are not suitable for measuring due to their projection technique.
- **CBCT image (3D):** The calibration is calculated geometrically. Measurements are only possible in the slices (axial, sagittal, coronal and TSA), but not in the volume view or panoramic view. The length and angular values in displayed layers (MRI) are calculated on the basis of the voxel dimensions defined in the 3D image data set (measuring unit e.g. mm). The accuracy with regard to the anatomical relationships is dependent on these voxel dimensions. The values calculated in the software therefore only reflect the relationships of the voxel data in defined accuracy. The display accuracy is equivalent to 50% of the last decimal place (e.g. if the resolution is 0.1 mm the accuracy is 0.05 mm).

The following measurements can be performed:

- |  |  |
|--|--|
|  | Simple line (start and end point)                  |
|  | Polyline (start, intermediate point and end point) |
|  | Angle (between two straight lines)                 |

The measurements are saved as an annotation. The image needs to be calibrated for the measurements. The symbol shows the calibration type:

- |  |  |
|--|--|
|  | Calibration, geometrically calculated:<br>The known geometry of the image acquisition system (e.g. resolution of the image acquisition mode, magnification factor) is incorporated in the calculation. |
|--|--|

- |   |   |
|---|---|
|  | Calibration with a reference object:<br>The known size of a reference object included in the image has been measured and saved.<br>The reference object must be located in the direct area of the area being measured during imaging. |
|---|---|

Rulers can be displayed on calibrated images. Rulers are not available for uncalibrated images or for the measurement unit 'pixels' (px).

- |   |             |
|---|-------------|
|  | Show rulers |
|  | Hide rulers |

Perform calibration with a reference object:

 **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 acquisition.
- › Do not use a panoramic image for the measurement.

1. Click .
2. In the image, click on the start point with the left mouse button.
3. Click with the left mouse button on the end point.
4. Under *Tools* and *Calibration* enter the actual length of the measured length (e.g. the diameter of a steel sphere).
5. Click .  
The values are copied to the image.

*Measuring a simple line:*

1. Click .
2. In the image, click on the start point with the left mouse button.

- Click with the left mouse button on the end point.  
The measured result is displayed directly on the measurement line.

#### Measuring a polyline:

- Click .
  - In the image, click on the start point with the left mouse button.
  - Use the left mouse button to add as many intermediate points as you want.
-  In 3D images, you can scroll through the individual layers by holding down the Shift key and using the mouse wheel.
- Click with the right mouse button on the end point.  
The measured result for the overall distance is displayed directly on the measurement line.

#### Measuring an angle:

- Click .
- In the image, click on the start point of the first straight line with the left mouse button.
- Click with the left mouse button on the end point of the first straight line.
- Click on the start point of the second straight line with the left mouse button.
- Click with the left mouse button on the end point of the second straight line.  
The angle between the two straight lines is displayed.

#### Editing a measurement:

- In the image, click on the measurement with the left mouse button.  
This activates the measurement and the anchor points are displayed.
- To move the anchor point, click on the anchor point with the left mouse button , hold the mouse button and move it.

#### Change the display of the measurement:

- To change the colour and line thickness, select the measurement in the *Annotations* and click .

#### Delete measurement:

- Mark the measurement in *Annotations* in order to activate it.
- Click .

#### Drawings

Drawings can be inserted into the image. All drawings are saved as annotations.  
The following drawing tools are available:

- |   |                          |
|---|--------------------------|
|  | Create free-hand drawing |
|  | Create a line            |
|  | Create an arrow          |
|  | Create a rectangle       |
|  | Create an ellipse        |
|  | Create text              |

#### Create free-hand drawing:

- Click .
- In the image, click on the start point of the free-hand drawing using the left mouse button.
- Keep left mouse button down and create a freehand drawing.
- Release the mouse button to finish the free-hand drawing.  
The mouse cursor retains the function of the free-hand drawing.
- To create a second free-hand drawing, press the left mouse button and keep it pressed while you draw.
- To finish the free-hand drawing, press the right mouse button.

#### Create a line:

- Click .
- In the image, click on the start point of the line using the left mouse button.
- Click on the end point of the line using the left mouse button.

### Create an arrow:

1. Click .
2. In the image, click on the start point of the arrow using the left mouse button.
3. Click on the endpoint of the arrow using the left mouse button.

### Create a rectangle:

1. Click .
2. Click in the image with the left mouse button to place the first corner of the rectangle.
3. Move the mouse cursor.  
A preview of the rectangle is displayed.
4. Click with the left mouse button to define the size of the rectangle.

### Create an ellipse:

1. Click .
2. In the image, click on the start point of the ellipse using the left mouse button.
3. Move the mouse cursor.  
A preview of the ellipse is displayed.
4. Click with the left mouse button to define the size of the ellipse.

### Create text:

1. Click .
2. Click the left mouse button on the position in the image where the text should begin.  
The text flyout opens.
3. Enter text.  
The text appears in the image and in the text field of the flyout.
4. Set the font size, colour and type (bold **B** or underline U) as required.

### Shift drawing:

1. In the image, click on the drawing using the left mouse button.  
This activates the drawing and the anchor points are displayed.
2. Keep the mouse cursor  pressed and move the drawing.

3. Release the mouse button.

### Edit drawing:

1. In the image, click on the drawing using the left mouse button.

This activates the drawing and the anchor points are displayed.

 The anchor points of pre-hand drawings cannot be edited.

2. To move the anchor point, click on the anchor point with the left mouse button , hold the mouse button and move it.

### Change the display of the drawing:

1. To change the properties (e.g. colour and line thickness), select the drawing in *Annotations* and click .

### Delete drawing:

1. Mark the drawing in *Annotations* in order to activate it.
2. Click .

### Edge mask

X-ray images can be masked at the edges to prevent the occurrence of effects that may hinder diagnosis. The area beyond the edge mask is hidden.

The edge mask can be activated or deactivated. The edge mask is automatically activated for intraoral X-ray images.

The edge mask and background colour can be configured for every X-ray station.

### Dose equivalent

If the option *Enable equivalent dose measurement* is enabled in the configuration, then the tool *Equivalent dose* is present in the toolbox (this option is disabled by default, see also "Acceptance and consistency check"). With this tool the equivalent dose values are measured during the X-ray image acquisition for the acceptance test and for the consistency checks and compared with each other.

Measurement of the dose equivalents in imported aperture images or CBCT images is not feasible.

### Dose equivalent measurement:

1. In the toolbox open the Equivalent Dose tool group.

2. Click .
 

The mouse pointer changes to a yellow frame .
3. Move the mouse cursor over the image on the light table.
4. Click on the defined point in the test image.
 

The value is applied as the *Measured equivalent dose*.  
The position of the measurement is marked with a yellow border. The border is also visible in the reference image of the consistency check.

### Dose calibration

If the option *Calibration for automatic calculation of the incident dose at the image receiver* is activated during the acceptance check by selecting *Apply* then the tool *Dose calibration* is available in the toolbox.

This can be used to calibrate the image acquisition device (provided it supports this function) so that the incident dose at the image receiver is automatically determined and documented in the X-ray report for every image acquisition with this device (in accordance with StrlSchV / Radiation Protection Regulation § 114 section 1).

### Dose calibration:

1. In the toolbox, open the tool group *Dose calibration*.
2. Click .
 

The mouse pointer changes to an orange frame .
3. Move the mouse cursor over the image on the light table.
4. In the image, click the dark rectangle at the top right, refer also to the note  in the toolbox.
 

The calibration factor is determined with which the incident dose at the image receiver is automatically calculated.

### Displaying and editing image information

The image information can be displayed via the "Image inspector" or the light-table menu. Certain information (e.g. X-ray parameters, image designation) can also be edited. The image information at the bottom of the flyout cannot be changed. The X-ray parameters can be defined

as mandatory fields (see "73.8 X-ray stations"). If these fields are not completed, the symbol for the image information  is displayed with a red surround.



The information can only be changed if the test has not yet been completed.

1. Select an image in the "Image inspector".  
or  
Click on the image on the light table.
2. Click  in the light table menu or click the preview image in the image inspector.  
The *Image information* flyout will open.
3. Change the data as required.
4. Close the flyout with  or click outside the flyout.  
The image information is saved.

### Importing aperture images

Aperture images can be imported for acceptance checks and partial acceptance checks on a CBCT, panoramic, or cephalometric X-ray system as well as for consistency checks on a CBCT X-ray system.

The following file formats can be imported:

- DICOM (\*.dcm)
- PNG (\*.png)
- TIFF (\*.tif, \*.tiff)
- JPEG (\*.jpg)
- JPEG 2000 (\*.jp2, \*j2k)
- Bitmap (\*.bmp)
- XTF (original image state) (\*.xtf)

1. Click .
2. Select the aperture images.
3. Click *Open*.

## 60 Managing X-ray station tests

The tests performed (acceptance test, partial acceptance test, consistency test) are managed separately for each X-ray station.

If the last performed test is no longer valid or the test is not yet complete then the test is marked with .

### 60.1 Viewing the test

1. Click  *Acceptance and consistency tests*.
2. Select an X-ray station.
3. In *Progress* select the required test.
4. For completed tests click *Display*.  
For tests that have not yet been completed click *Edit*.  
Alternatively, you can also double-click on a test to view it.  
  
The test is opened.  
Changes can be made to the image, but they will not be saved.

### 60.2 Exporting tests

#### Exporting individual tests

1. Click  *Acceptance and consistency tests*.
2. Select an X-ray station.
3. In *Progress* click the required test.
4. Click *Export*.  
The test export dialog opens.
5. Select the file path.  
As VistaSoft exports individual files, we recommend that you set up a new folder and specify this as the target folder.
6. Select the image format.
7. If, during checks of a CBCT X-ray unit, all of the 3D X-ray images are to be exported as well, activate the *Export complete volume* option.

8. Click *Export*.

The summary of the test is exported as a PDF file together with the image in the selected format.

When conducting checks of a CBCT X-ray unit, an image acquisition of two layers is exported for every test: an MTF layer and a homogeneity layer. The annotations and number of the layers are also outputted. The aperture images are also exported. If the *Export complete volume* option is activated, the 3D X-ray image is also exported as a DICOM dataset.

#### Exporting all tests for an X-ray station

If you wish to export more than just one test, then it is possible to export all of the tests reports for an X-ray station at once.

Requirements:

- ✓ At least one completed test is available

1. Click  *Acceptance and consistency tests*.
2. Click *Export all test reports ...*
3. Select the file path.  
The tests are saved in individual folders in the directory.
4. Select the image format.
5. If, during checks of a CBCT X-ray unit, all of the 3D X-ray images are to be exported as well, activate the *Export complete volume* option.
6. Click *Export*.

The summary of the test is exported as a PDF file together with the image in the selected format.

When conducting checks of a CBCT X-ray unit, an image acquisition of two layers is exported for every test: an MTF layer and a homogeneity layer. The annotations and number of the layers are also outputted. The aperture images are also exported. If the *Export complete volume* option is activated, the 3D X-ray images are also exported as a DICOM dataset.

### 60.3 Printing out a test

1. Click  *Acceptance and consistency tests*.
2. Select an X-ray station.

3. In Progress select the required test.
4. Click *Print*.  
The print dialog opens.
5. Select the required printer and change any settings as required.
6. Click *Print*.  
The summary of the test is printed out. The image is not printed out with this.

## 60.4 Deleting a test

Acceptance tests and partial acceptance tests can be deleted only if they have not been completed yet.

Consistency checks can be deleted at any time.

1. Click  *Acceptance and consistency tests*.
2. Select an X-ray station.
3. In Progress select the required test.
4. Click *Delete*.



Acceptance and partial acceptance tests can only be deleted after an access code (technician password) has been entered.

5. Enter the access code if required.  
The test is deleted.

## 61 Managing the tests of the image reproduction system

1. Click  *Monitor test*.
2. Click *Reports*.
3. Select the time period for which you wish to see the reports displayed.
4. Under *Monitor* select the monitor for which the tests are to be displayed.  
The filtered results are displayed in the list.
5. Select the required test.

### Viewing the test:

1. Click *Details*.  
Alternatively, you can also double-click on a test to open it.  
The summary of the test is opened.

### Exporting tests:

1. Click *Export to...*  
The test export dialog opens.
2. Select the file path.
3. Click *Save*.  
The summary of the test is exported as a PDF file.

### Printing out a test:

1. Click *Details*.  
Alternatively, you can also double-click on a test to open it.  
The summary of the test is opened.
2. Click *Print*.  
The print dialog opens.
3. Select the required printer and change any settings as required.
4. Click *Print*.  
The summary of the test is printed out.
5. Click *Close* to close the *Monitor test* window.

## 62 Perform plate surface quality check

The plate surface quality check checks the image plates for damage and scratches and leads to a recommendation of when the image plate should be replaced.

We recommend to perform the plate surface quality check in regular intervals.

 Should damage or wear be visible in areas of the image plate that are relevant for diagnosis, the image plate should be replaced regardless of the result of the plate surface quality check.

The test images can be furnished with the image plate identification. As a result, the condition of the image plate over time is visible in the overview if tests are performed regularly.

The test result is assessed as follows:

- A Image plate is new, no need for further action.
- B Image plate is in good condition, no need for further action.
- C Image plate shows signs of wear. Monitor and check again soon.
- D The plate shows clear signs of wear, speedy replacement is recommended.
- E The plate shows heavy wear, replacement is recommended urgently.
- X Unable to perform plate surface quality check. Please note the correct dose.

The following steps are required to perform a plate surface quality check:

- "62.1 Create homogeneous test image"
- "62.2 Scan and check the image plate"

The completed plate surface quality checks can be viewed and deleted, see "62.3 Management of plate surface quality checks".

 With the aid of the image plate quality test you can check Image Plates Plus and Image Plates IQ / IDX.  
For Image Plates IQ / IDX this test is not necessary, as they are automatically tested during normal application.

### 62.1 Create homogeneous test image

1. Place the image plate on a level surface at a distance of approximately 12 cm (equivalent to the diameter of a CD) from the X-ray tube. When doing this, make sure that the active side of the image plate points towards the X-ray tube.
2. Set the exposure time and setting values for a molar x-ray image on the X-ray unit.
3. Scan the image plate right away, but no later than after 30 minutes, see "62.2 Scan and check the image plate".

### 62.2 Scan and check the image plate

1. On the start page, click  *Plate quality test*.
2. Click *Scan plate*.
3. Select the acquisition source.
4. Scan the image plate.

The image is displayed in the image inspector and on the light table.

The assessment (A–E) is shown on the bottom right of the preview image and in the toolbox.

The dose indicator shows whether or not the exposure of the image plate for the quality check was correct.

5. For Image Plates Plus: In the preview image click  to enter the image plate ID. Image plate IDs that have been entered previously can be selected in the selection list. With Image Plates IQ / IDX the image plate ID is entered automatically.
6. In order to view the image on the light table in more detail, the tools of the toolbox (show, image corrections, histogram) can be used. The changes are not saved.
7. Click *Exit from plate surface quality check*.  
The overview of the plate surface quality check is displayed.

**Repeat the plate surface quality check (assessed as X):**

1. If the assessment of the image is X, it was not possible to perform the plate surface image check due to faulty exposure. Evenly expose the image plate again. Adjust the exposure according to the dose indicator of the first image.
2. Scan the image plate right away, but no later than after 30 minutes.

### 62.3 Management of plate surface quality checks

1. On the start page, click  **Plate quality test**.  
The overview lists all checks that have been done, sorted by image plate ID.

**View all test images for an image plate ID:**

1. Mark the corresponding image plate ID in the overview.  
All checks done for this image plate ID are displayed including their date and result.
2. To open the test images, click **Display image on light table**.  
The light table opens. The image inspector shows all preview images for the image plate ID. The images can be displayed individually on the light table.

**Export test image:**

1. Mark the corresponding image plate ID in the overview.  
All checks done for this image plate ID are displayed including their date and result.
2. To open the test images, click **Display image on light table**.  
The light table opens. The image inspector shows all preview images for the image plate ID.
3. Click on the preview image to display it on the light table.
4. Click .
5. Select file path and image format.

6. Click **Export**.

The test image is being exported. Changes of the image, e.g. brightness or contrast, are not included.

**Delete test image:**

1. Mark the corresponding image plate ID in the overview.  
All checks done for this image plate ID are displayed including their date and result.
  2. To open the test images, click **Display image on light table**.  
The light table opens. The image inspector shows all preview images for the image plate ID.
  3. Click on the preview image to display it on the light table.
  4. Click .
- The image is deleted immediately.

**Delete image plate with image plate ID from plate surface quality check:**

1. Mark the corresponding image plate ID.
2. Click **Delete plate**.
3. Confirm the deletion in the dialog window.

## 63 VistaSoft Inspect configuration overview

In the configuration the software and connected devices can be configured. The configuration is divided into the following parts:

- "63.1 Application"
- "63.2 Devices"
- "63.3 X-ray stations"



Available configuration in VistaSoft that are also valid for VistaSoft Inspect will be applied, e.g. X-ray stations.

If user management is activated in VistaSoft then it is also valid for VistaSoft Inspect. The login window opens during startup.

The password can only be changed in VistaSoft.

### 63.1 Application

Under *Application* you can adjust general settings for the software (e. g. the language used in the software, licensing, duration of validity of the acceptance and consistency checks).

#### Workstation

| Workstation              |   |
|--------------------------|---|
| Workstation name:        | A name can be assigned to this workstation.   |
| Port for local services: | Port used within the software; it can be changed in the event of any conflicts with other software.<br>Default port: 3113 |

| Display                        |  |
|--------------------------------|--|
| Display scaling:               | If a new scale has been selected, the software will now be displayed entirely according to this scale. In the process, all windows, fonts, icons, etc. are made larger or smaller. The change is applied without a restart and remains active after a restart.                       |
| UI style:                      | Standard: All font styles are used.<br>Narrow: No bold font styles are used (e. g. default for Japan region).  |
| Display language:              | The display language can be selected via the selection list. The software needs to be restarted after the change has been made.  |
| GPU-accelerated image display: | If GPU acceleration is enabled then certain calculations are handled by the graphics processor. In some areas, this can make the image appear more quickly. The software needs to be restarted after the change has been made.<br>Minimum requirements – see "4 System requirements" |

| VistaSoft settings                |   |
|-----------------------------------|---|
| Display last registered patients: | If the option is activated, the list of Last logged in patients is displayed in the patient flyout. |

| Translation |  |
|-------------|--|
| Language:   | The language for translation can be chosen via the selection list. |

| Translation                          | The interface texts in the software can be individually modified if required.  |
|--------------------------------------|--|
| User-defined translations: exporting | An XLIFF file is exported to the desktop by clicking on "Export". This can be adjusted and imported again according to your individual wishes. |
| User-defined translations: importing | The adjusted XLIFF file can be selected and imported by clicking on "Import".  |

## Logging record

### User notification

Click *User notifications* to display all user notifications. These can be sorted in ascending or descending order according to date or notification content.

## Licensing

Without a valid licence file, the software can be used in the demo version. Here, 30 patients can be created in the software with full functionality. From the 30th patient a 30-day deadline applies within which further patients can be created. Once this deadline has expired, it will no longer be possible to use the software without a valid licence file.

In demo mode, VistaSoft Inspect allows unlimited acceptance checks and partial acceptance tests to be carried out even without a valid licence file. A licence is required for the second consistency check of an X-ray station and for the monitor test.



If you wish to move the server installation or single workstation installation onto a different computer, you will need to request a new licence file (free of charge).

Licensing depends on whether or not the licence file is already present:

- If the licence file is present: "7.2 Licensing without a licence file"
- If the licence file needs to be ordered: "7.2 Licensing without a licence file"

The license file contains information about the licensed packages and modules. If additional packages or modules are required later on then the licensing process will need to be repeated.

### The following packages are available:

|                         |   |
|-------------------------|---|
| VistaSoft 2D X-ray      | <ul style="list-style-type: none"> <li>– For taking 2D X-ray images (Acquisition types for the mode classes Intraoral, Panoramic and Cephalometric)</li> <li>– Acceptance and consistency checks with VistaSoft Inspect</li> </ul>  |
| VistaSoft 3D & 2D X-ray | <ul style="list-style-type: none"> <li>– For taking CBCT images (Acquisition types of the CBCT mode class)</li> <li>– For taking 2D X-ray images (Acquisition types for the mode classes Intraoral, Panoramic and Cephalometric)</li> <li>– Acceptance and consistency checks with VistaSoft Inspect</li> </ul> |
| VistaSoft Connect       | <ul style="list-style-type: none"> <li>– Acquisition and transmission of X-ray and video images at the request of a third-party application (restricted configuration, see "Limitations of the minimal Connect interface")</li> <li>– Acceptance and consistency checks with VistaSoft Inspect</li> </ul>       |
| VistaSoft Video         | <ul style="list-style-type: none"> <li>– Make a video recording (Acquisition types for the mode classes Video, Proof)</li> </ul>  |

### Modules subject to a charge:

|                                 |   |
|---------------------------------|---|
| VistaSoft Basic Dental Workflow | Interface to practice management software   |
| VistaSoft DICOM Print           | Outputting images to DICOM printers   |
| VistaSoft DICOM Starter         | Share images with DICOM systems   |
| VistaSoft MobileConnect         | Display images on the Dürr Dental imaging iPad App                                      |
| VistaSoft PatientBridge         | Interface for accepting patient data from different software (e.g. accounting software) |
| VistaSoft Trace*                | Automatic analysis and evaluation of cephalometric X-ray images                         |

\* not available in the USA and Canada

In a multi-station installation, the modules VistaSoft DICOM Starter and DICOM Print are used as a so-called floating license, which means that the license is only required if the workstation is logged in as a DICOM workstation.

### Obtain New Licence File ...      A new licence file can be ordered.

|                  |  |
|------------------|--|
| Station number:  | Unique number of the workstation   |
| Modules          | List of modules that can be licensed   |
| Module           | Name of the software module  |
| Registered       | Yes: The module is already licensed.<br>No: The module is not yet licensed.<br>Quantity: Number of existing floating licences  |
| Order            | Select if you wish to license this module.<br>For floating licences, specify the number of licences needed.<br>With a multi-station installation, the 3D licence is only needed for a workstation if the module will be used there. DICOM is only needed if the workstation is logged in as a DICOM workstation. |
| Serial numbers   | Information on the devices<br>The connected devices are listed automatically.  |
| Unit             | Name of the device   |
| Serial number    | Serial number of the device  |
| Reference number | Order number of the device   |
| Add device       | Add device manually if it is not recognised automatically  |
| Update           | Update the list with all connected devices that are switched on.   |
| Address data     | Address data of the practice   |
| Dealer           | Address data of the dealer   |

### Import new licence file

Import new licence file:      An existing licence file can be imported here.

### Acceptance and consistency check

Display warning if no check is available:      A warning is shown if no acceptance check has been performed yet.

|  |  |
|--|--|
| Activating equivalent dose measurements: | This should be enabled if equivalent dose measurements are required for acceptance checks in accordance with national legislation (e.g. in Austria).<br>In the toolbox the group <i>Equivalent dose</i> is then also displayed.  |
| Workstation is used for diagnosis:       | If this function is activated then the monitor test must be performed for this workstation.<br>Each time VistaSoft is started, VistaSoft Inspect checks whether or not a monitor test needs to be performed. If VistaSoft is left open for longer than 24 hours, then a check is also performed.<br>If a monitor test is due, this is started automatically. |

Under *Warning mode...* you can adjust the warning mode for acceptance and consistency checks (see "Warning mode").

### Warning mode

#### Period of validity

|            |   |
|------------|---|
| Intraoral: | This defines the period of validity for the consistency check for intraoral image reproduction systems and X-ray systems. |
| Extraoral: | This defines the period of validity for the consistency check for extraoral image reproduction systems and X-ray systems. |

## 63.2 Devices

A list of all connected devices is displayed in the *Devices* configuration. It corresponds to the configuration in VistaSoft.



Changes to the unit configuration are also directly valid in VistaSoft .

#### Devices

|                          |   |
|--------------------------|---|
| Unit                     | This shows a preview image of the connected device (where present).   |
| Name                     | Name of the device  |
| Connection               | Specifies the connection settings   |
| Connection state         | Specifies whether the device is currently connected and can be used   |
| Use in VistaSoft Connect | For video: Option for activating the unit for VistaSoft Connect<br>For X-ray: Switch to the configuration <i>X-ray stations</i> |

The configuration of the devices in VistaSoft Inspect is no different to the configuration of the devices in VistaSoft (see "74 Devices").

## 63.3 X-ray stations

A list of all the created X-ray stations is displayed in the *X-ray stations* configuration. The list shows the following properties of the X-ray stations:

|                          |   |
|--------------------------|---|
| Description              | Name of the X-ray station, can be changed in <i>Configure</i> .   |
| Operator                 | User of the X-ray station, can be changed in <i>Configure</i> .   |
| Category                 | X-ray emitter category (e.g. intraoral)   |
| Favourite                | This X-ray station is displayed first in the selection list when the X-ray image acquisition is started.  |
| Use in VistaSoft Connect | Device is visible to third-party application via VistaSoft Connect. (only with VistaSoft Connect licence) |

Linked workstation Workstation that automatically accepts a new task.

The list can be sorted by clicking in the headline of the corresponding column.

The following possible settings depend on the device.

You can create a new X-ray station either manually or using the wizard. If there is a legal requirement for recording X-ray data then the process will depend on the image acquisition device:

- Creating an X-ray-station using the wizard
  - VistaPano S / ProVecta S-Pan
  - VistaPano S / ProVecta S-Pan
  - VistaVox S / ProVecta 3D Prime
  - VistaVox S Ceph / ProVecta 3D Prime Ceph
- Creating an X-ray-station manually
  - All VistaScan / ScanX devices
  - VistaRay / SensorX
  - Cephalometric/panoramic devices without digital image receiver (e.g. with image plate)
  - TWAIN devices

 Changes to the configuration of the X-ray stations in VistaSoft Inspect are also directly valid in VistaSoft.

## Configuration

### General

|              |  |
|--------------|--|
| Designation: | Name of the X-ray station<br>All X-ray stations must be clearly and uniquely named. A designation must not be used more than once. |
| Operator:    | Name of the owner/operator   |
| Address:     | Address of the owner/user  |

### X-ray emitter

|           |  |
|-----------|--|
| Selection | Selection list showing the created X-ray emitters.<br>A new X-ray emitter can be created by clicking <b>Create X-ray emitter...</b><br>You can click on <b>Configure</b> to change the configuration of an X-ray emitter that has already been created. The category (e.g. intraoral) cannot be changed.<br>You can delete an X-ray emitter via <b>Delete</b> provided it is not being used by an X-ray station. |
|-----------|--|

### Image acquisition device

|                |  |
|----------------|--|
| Unit:          | Selecting a device from the selection list   |
| Magnification: | Magnification depends on the X-ray emitter and the assigned image type. The value must be between 1.0 and 10.0.<br>In manual configuration, a value is suggested when the X-ray emitter is selected: <ul style="list-style-type: none"> <li>- Intra: 1.05</li> <li>- Pano: 1.25</li> <li>- Ceph: 1.1</li> </ul> The value may need to be adjusted, e.g. for VistaPano / ProVecta S-Pan (Pano 1.3 and Ceph 1.14). See also the instructions for the image acquisition device. |

**Image acquisition device**

Activate calculation of the incident dose at the receptor: If the image acquisition device supports automatic calculation of the incident dose at the receptor from the image data, manual entry of the X-ray parameters is no longer necessary. The setting *Automatic calculation of the incident dose at the image receiver from the image data* must also be activated in the practice configuration, see "78.1 Configuration".

**Parameters**

Depending on the image acquisition device and the X-ray emitter assigned to the X-ray station, different suggested values can be defined for the X-ray parameters for each image acquisition type. It makes the work easier if the X-ray exposures are always taken with the same values. The X-ray parameters are automatically saved with the image information (see "41.1 Importing the X-ray image using VistaScan / ScanX"). They can be adjusted here as required. The proposed values for the X-ray parameters are only entered automatically for the first image. If there are further images from the same image acquisition then the X-ray parameters can be copied from the first image with *Apply values* or they can be manually entered.

When configuring the various acquisition types, you can apply the values from another X-ray station that uses similar or identical values. This saves you the trouble of entering each value separately since you only need to change those values that are different. To do so, go to the area in the lower section labelled *Apply Parameters from this X-ray Station;*, then select the X-ray station whose values you wish to use and click *Apply*.

**Image processing**

For every image created with this X-ray station the predefined image processing steps are performed automatically.

The image processing steps can be changed on the light table and saved (see "44.2 Managing default image settings"). The values are only displayed in the configuration.

You can click on *Restore default settings* to reset any changes made in the image processing steps.

**Filter**

Selected filter: Predefined filters that support diagnosis (see "Filter")

**Windowing****Settings for image corrections and histogram**

Limit white: Percentage of greyscales converted to white

Limit black: Percentage of greyscales converted to black

Brightness: Brightness of the image

Contrast: Contrast of the image

Gamma: < 1: Bright areas become darker  
> 1: Dark areas become brighter

**Display**

Mirroring: Horizontal or vertical inversion of the image

**Annotation**

Edge mask: Image masking, the area outside the mask is hidden

Greyscale: Colour of the edge mask; choose between 0 (black) and 255 (white)



### **Delete**

1. Select the required X-ray station in the list.
2. Click *Delete*.
3. Confirm the deletion in the dialog window.

**CAUTION**

**Data loss due to hardware defects or software issues after operating system update**

- › Regularly back up the imaging software database.
- › Regularly back up images separately. The images themselves are not part of the ServerManager backup.

You can use the ServerManager to generate and restore backups of the imaging software database. An automatic backup can be configured for regular data protection. The last 20 backups are always saved; older backups are deleted.

The backup covers the following data:

- Patient data
- Practice data
- Image information (only for meta data; not the images themselves)

The backup is saved with hour and date.

With a multi-station installation, the ServerManager can only be accessed on the work station which has been configured as a server.

In addition, the imaging software database can be changed using the ServerManager (e.g. when migrating to a new server).

## 64 Starting the ServerManager

Requirements:

- ✓ VistaSoft and VistaSoft Inspect have not been started.

1. Click on *Start > All programs > VistaSoft > ServerManager*.

## 65 Creating a manual backup

1. Click  *Create new backup*.

During the backup, a dialog window is displayed with a progress bar. A notification in the dialog window is displayed once the backup has been completed.

## 66 Restoring the backup

Requirements:

- ✓ VistaSoft and VistaSoft Inspect have been closed on all work stations.



### 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.

1. Click  **Restore existing backup**.

A dialog window with the list of available backups opens. The backups are marked with date and time.

2. Select the backup and click on **Restore**.

A notification appears once the backup has been restored.

## 67 Configure the automatic backup

The automatic backup generates a backup daily. The start time can be adjusted.

VistaSoft and VistaSoft Inspect must be closed on all work stations. We recommend that you select a time for the automatic backup at which you are not working with the software.

The work station on which the backup is generated (server or individual station) must be running at the set time and the Windows service **VistaSoft Service** may not have been closed. (The service starts automatically upon start of the computer).

*Set and activate the backup:*

1. Click  **Configure automatic backup**.

The dialog window opens.

2. Click on **Activated**.

3. Set the start time. The numbers can be entered via the keyboard or using the arrow keys.

The starting time of the next automatic backup is displayed under **Last and next backup**.

4. Click **Apply** to save the changes.

5. Click **Return to main screen** to discard the change.

The dialog window is closed.

## 68 Encrypting the database

This function allows you to encrypt the database directories (all practices) on the server. This means that the data are also protected if, for example, the hard drive is not disposed of properly at the end of its life and falls into the wrong hands.

Further information is given in the chapter Cybersecurity, "13 Encryption".



If the database contains DBSWIN images, these are also encrypted. DBSWIN can then no longer access these images.

### Activating the encryption:

1. Click .
2. Click *Activate encryption*.
3. Enter the encryption password. Pay attention to the strength of the password. More information on password strength can be found at .
4. Enter the password again in the second field.
5. Click *Activate encryption*.



### CAUTION

#### Data cannot be restored if the key is lost

The data are encrypted using a digital key that is generated on the server within the practice.

Dürr Dental does not have access to this key and cannot extract it from a database. If this key (consisting of certificates in file form and a password) is lost, the data are irretrievably lost.

- › Store the key (certificate and password) securely.
- › Also store the key at a secure location outside the practice (for example, on a USB stick in a safe deposit box).

6. Click *Save encryption under*.
7. Select a directory and click *Save*.
8. Click *Save password as file*.
9. Select a directory and click *Save*.

10. Click *Encryption data secured*.

The local database is encrypted. This may take some time, depending on the size of the database.

You can continue working during the encryption process.

11. Click *Return to main screen* to close the window.

### Deactivating the encryption:



If encryption is deactivated, the encrypted backups of the image data are also no longer securely encrypted.

1. Click  *Encrypt data*.
2. Click *Deactivate encryption*.
3. Enter the encryption password.
4. Click *Deactivate encryption*.  
The encryption of the local database is deactivated. This may take some time, depending on the size of the database. You can continue working during the decryption process.
5. Click *Return to main screen* to close the window.

## 69 Change database

You can use this function to change the database directories. This may be necessary if the database is to be moved to a new server, for example.

Requirements:

- ✓ VistaSoft and VistaSoft Inspect have been closed on all work stations.



This function is described using the VistaSoft default directories.

The database directory may be different in a user-defined installation.

1. Copy the VistaSoftData directory (default: C:\VistaSoftData) from the old server to the new server.
2. Click .
3. Select or enter the path of the new VistaSoftData directory.
4. Click *Next*.
5. Check the practice paths and change them as required.
6. If the new data are encrypted: Enter the password and select whether the data should continue to be encrypted.
7. If the data is to be encrypted, save the password and key file. Confirm the backup with *Encryption data secured* (see also "68 Encrypting the database").
8. Click *Apply*.  
The database directories will be changed to the new directory.

## 70 Reconstruct database

This function makes it possible to reconstruct images that are not displayed in the imaging software because the corresponding entry in the database is missing.

The images are listed and displayed, and can then be transmitted to the database.

Before the "Reconstruct database" function is executed, an action is selected for each image:



Transmit image to database



Permanently delete image



Ignore image

1. Click  *Reconstruct database*.  
If data is available for the reconstruction then the window *Reconstruct database* opens. The data is structured by practice and patient.
2. Click on an image to view the preview image, the available patient data, and the image information.
3. Click *Transmit* to reconstruct the image and import it to the database of the imaging software.  
The image is marked with .
4. Click *Delete* to permanently delete the image.  
The image is marked with .
5. Click *Ignore* to leave the image in the reconstruction directory.  
The image is marked with .
6. Click *Apply*.  
After the reconstruction process is completed a report is displayed.
7. Click *Return to main screen* to exit the reconstruction.

## 71 Merge practice

This function enables you to merge the databases of two different practices.

There are two ways to do this:

- Merging a practice from an external database directory with the practice on the current database directory.  
To do this, the external database directory must be located on a local hard drive. The data must not be encrypted.
- Merging two practices on the current database directory

Before the practices can be merged, a backup is created automatically.

Images from the original practice are only assigned to existing patients in the target practice if all identifying attributes match. Otherwise a new patient is created.

1. Click  *Merge practices*.

**Merging a practice from an external database directory:**

1. Click ... and select the original database directory.
2. If multiple practices are present in the original database directory, select a practice.
3. Select the target practice if multiple practices are present in the current database directory.  
If only one practice is present then it will be selected automatically.
4. Click *Merge*.  
Once the process of merging the practices is complete, a message will appear. A report is saved (path: see message).
5. Click *OK* to close the message.

**Merging two practices on the current database directory:**

1. Select the original practice.
2. Select the target practice.
3. Click *Merge*.  
Once the process of merging the practices is complete, a message will appear. A report is saved (path: see message).
4. Click *OK* to close the message.

## 72 Import third-party database

With the aid of this function, third-party databases (DICOMDIR) can be imported into the database of the imaging software.

The following rules apply to the import:

- The patient IDs of the DICOMDIR must be unique.
- If no patient ID is present then a new patient is created.
- If the patient ID is already present in the imaging software then the images are assigned to this patient.
- Available data in the imaging software is not overwritten by the import process.

Requirements:

- ✓ VistaSoft and VistaSoft Inspect have been closed on all work stations.

1. Click  *Import third-party database*.
2. Click ... to select the DICOMDIR to be imported.
3. If multiple practices are present: select the target practice.
4. Click on *Import*.

**Result:**

An automatic backup is created.

The data is imported.

Once the import is complete, a report is saved.

## Configuration overview

In the configuration the software and connected devices can be configured. Configuration  is only available to the user role of Administrator.



With a multi-station installation, the software can be configured at any workstation (client). The central settings (e.g. X-ray stations, acquisition types, users) are then available at all workstations.

### 73 Application

See also:

- "24 Changing the display language"

Under *Application*, you can adjust general settings for the software (e. g. the language used in the software, licensing, dental notation system).

#### 73.1 Image cache

Recorded images that have been lost due to connection problems during the transfer from the workstation to the server can be restored from the image cache. In the image cache settings, the retention period and memory limits can be specified.

The settings for the image caches apply locally to one workstation.

##### Image cache

Retention period for X-ray images:

Images that have not been successfully transmitted are always retained in the image cache even if no retention period is defined. If a time is entered under *Retention period for X-ray images*, then all images (successfully and unsuccessfully transmitted) are retained for this additional period in the image cache and then deleted.

Examples:

- 0 days: The acquired images are immediately deleted once they have been successfully transmitted.
- 3 days: After successful transfer, the acquired images are stored for a further 3 days in the image cache and then deleted.

Memory warning limit:

The available memory space is determined each time the imaging software is launched and before any images are imported. If the amount of memory space remaining is below the set memory warning limit, the imaging software will issue a warning in a separate window. Work can continue.

**Image cache**

|                     |   |
|---------------------|---|
| Memory error limit: | The available memory space is determined each time the imaging software is launched and before any images are imported. If the amount of memory space remaining is below the set memory error limit, the imaging software will issue a warning in a separate window. You can carry on working with certain restrictions. You cannot create any images, but you can view existing ones. In addition, you can log in to and out of patient records. |
|---------------------|---|

**73.2 Workstation****Workstation**

|                          |   |
|--------------------------|---|
| Workstation name:        | A name can be assigned to this workstation.   |
| Port for local services: | Port used within the software; it can be changed in the event of any conflicts with other software.<br>Default port: 3113 |

**Display**

|                                |  |
|--------------------------------|--|
| Display scaling:               | If a new scale has been selected, the software will now be displayed entirely according to this scale. In the process, all windows, fonts, icons, etc. are made larger or smaller. The change is applied without a restart and remains active after a restart.                       |
| UI style:                      | Standard: All font styles are used.<br>Narrow: No bold font styles are used (e. g. default for Japan region).  |
| Display language:              | The display language can be selected via the selection list. The software needs to be restarted after the change has been made.  |
| GPU-accelerated image display: | If GPU acceleration is enabled then certain calculations are handled by the graphics processor. In some areas, this can make the image appear more quickly. The software needs to be restarted after the change has been made.<br>Minimum requirements – see "4 System requirements" |

**VistaSoft settings**

|                                   |   |
|-----------------------------------|---|
| Display last registered patients: | If the option is activated, the list of Last logged in patients is displayed in the patient flyout. |
|-----------------------------------|---|

**Translation** **The interface texts in the software can be individually modified if required.**

|                                      |  |
|--------------------------------------|--|
| Language:                            | The language for translation can be chosen via the selection list.   |
| User-defined translations: exporting | An XLIFF file is exported to the desktop by clicking on "Export". This can be adjusted and imported again according to your individual wishes. |
| User-defined translations: importing | The adjusted XLIFF file can be selected and imported by clicking on "Import".  |

## VistaScan Smart Reader

Activate sound: The Smart Reader signals with a sound that it has detected an IQ image plate.

### 73.3 Implants

Implant packages from various manufacturers can be downloaded in the download centre:



<http://qr.duerrdental.com/DLCimplants>



Not all implant packages are approved in all countries. Consult the respective manufacturer for approval status.



Only implant packages with the file extension ".ddi" can be imported.

|                              |   |
|------------------------------|---|
| Importing implant package... | Implant models can be imported (see "32 Importing implant packages"). They are available in the toolbox <i>Implants</i> and can be added to images schematically. The implant models are saved centrally and are available on all the workstations in the practice. |
|------------------------------|---|

### 73.4 Connection settings

#### Server service settings

The server service settings vary depending on whether the workstation is configured as a client or a server.

Work station configured as **server**:

#### Server service settings

|                      |   |
|----------------------|---|
| Server service port: | Port for communications with the server service. This port is used in single workstation and multi-station installations.<br>Default port: 3113 |
|----------------------|---|

Work station configured as **Client**:

|               |  |
|---------------|--|
| Server:       | IP address of the server   |
| Change server | Opens a dialog window for setting the server connection.<br>Server: IP address of the server<br>Port: server service on which the server is set. |

### 73.5 Logging record

#### User notification

Click *User notifications* to display all user notifications. These can be sorted in ascending or descending order according to date or notification content.

#### Audit log

Clicking on *Audit log* displays all events in the audit log, e.g. image export, login with incorrect password.

The events are logged with the date, user and practice.

They can be filtered according to user name, event and date.  
For more information, see "Cybersecurity measures".

## 73.6 Dental notation

- Go to the selection list to select which dental notation system is to be used:
- FDI (dental notation system of the Fédération Dentaire Internationale)
  - UNS (Universal Numbering System)
  - Palmer (Zsigmondy-Palmer System)

## 73.7 Licensing

Without a valid licence file, the software can be used in the demo version. Here, 30 patients can be created in the software with full functionality. From the 30th patient a 30-day deadline applies within which further patients can be created. Once this deadline has expired, it will no longer be possible to use the software without a valid licence file.

In demo mode, VistaSoft Inspect allows unlimited acceptance checks and partial acceptance tests to be carried out even without a valid licence file. A licence is required for the second consistency check of an X-ray station and for the monitor test.



If you wish to move the server installation or single workstation installation onto a different computer, you will need to request a new licence file (free of charge).

Licensing depends on whether or not the licence file is already present:

- If the licence file is present: "7.1 Licensing with a licence file"
- If the licence file needs to be ordered: "7.2 Licensing without a licence file"

The license file contains information about the licensed packages and modules. If additional packages or modules are required later on then the licensing process will need to be repeated.

### The following packages are available:

|                         |   |
|-------------------------|---|
| VistaSoft 2D X-ray      | <ul style="list-style-type: none"> <li>– For taking 2D X-ray images (Acquisition types for the mode classes Intraoral, Panoramic and Cephalometric)</li> <li>– Acceptance and consistency checks with VistaSoft Inspect</li> </ul>  |
| VistaSoft 3D & 2D X-ray | <ul style="list-style-type: none"> <li>– For taking CBCT images (Acquisition types of the CBCT mode class)</li> <li>– For taking 2D X-ray images (Acquisition types for the mode classes Intraoral, Panoramic and Cephalometric)</li> <li>– Acceptance and consistency checks with VistaSoft Inspect</li> </ul> |
| VistaSoft Connect       | <ul style="list-style-type: none"> <li>– Acquisition and transmission of X-ray and video images at the request of a third-party application (restricted configuration, see "Limitations of the minimal Connect interface")</li> <li>– Acceptance and consistency checks with VistaSoft Inspect</li> </ul>       |
| VistaSoft Video         | <ul style="list-style-type: none"> <li>– Make a video recording (Acquisition types for the mode classes Video, Proof)</li> </ul>  |

### Modules subject to a charge:

|                                 |   |
|---------------------------------|---|
| VistaSoft Basic Dental Workflow | Interface to practice management software |
| VistaSoft DICOM Print           | Outputting images to DICOM printers       |
| VistaSoft DICOM Starter         | Share images with DICOM systems           |

**Modules subject to a charge:**

|                         |   |
|-------------------------|---|
| VistaSoft MobileConnect | Display images on the Dürr Dental imaging iPad App                                      |
| VistaSoft PatientBridge | Interface for accepting patient data from different software (e.g. accounting software) |
| VistaSoft Trace*        | Automatic analysis and evaluation of cephalometric X-ray images                         |

\* not available in the USA and Canada

In a multi-station installation, the modules VistaSoft DICOM Starter and DICOM Print are used as a so-called floating license, which means that the license is only required if the workstation is logged in as a DICOM workstation.

| <b>Obtain New Licence File ...</b> | <b>A new licence file can be ordered.</b>  |
|------------------------------------|--|
| Station number:                    | Unique number of the workstation   |
| Modules                            | List of modules that can be licensed   |
| Module                             | Name of the software module  |
| Registered                         | Yes: The module is already licensed.<br>No: The module is not yet licensed.<br>Quantity: Number of existing floating licences  |
| Order                              | Select if you wish to license this module.<br>For floating licences, specify the number of licences needed.<br>With a multi-station installation, the 3D licence is only needed for a workstation if the module will be used there. DICOM is only needed if the workstation is logged in as a DICOM workstation. |
| Serial numbers                     | Information on the devices<br>The connected devices are listed automatically.  |
| Unit                               | Name of the device   |
| Serial number                      | Serial number of the device  |
| Reference number                   | Order number of the device   |
| Add device                         | Add device manually if it is not recognised automatically  |
| Update                             | Update the list with all connected devices that are switched on.   |
| Address data                       | Address data of the practice   |
| Dealer                             | Address data of the dealer   |

**Import new licence file**

|                          |  |
|--------------------------|--|
| Import new licence file: | An existing licence file can be imported here. |
|--------------------------|--|

**Licence for VistaSoft Implant & Guide**

|   |   |
|---|---|
| Purchasing a licence for VistaSoft Implant & Guide: | Opens the website where you can purchase VistaSoft Implant / Guide. |
|---|---|

### 73.8 X-ray stations

If there is a legal requirement to record X-ray data, then the tick must be placed in the check box (this option is pre-selected, depending on the region selected during the first start). As a result, the X-ray stations need to be manually set up and configured (see "76 X-ray stations").

In addition, various information (investigated part of the body, technical adjustment parameters of the X-ray emitter, etc.) need to be entered as specified in the German X-ray directive.

If there is no legal requirement to record X-ray data, then the tick can be omitted. As a result, the matching X-ray stations are automatically created in the background for every device. No further configuration is required for these. During the importing of X-ray exposures, the corresponding device can then be selected.

For example, three X-ray stations are created for the VistaScan Combi View as the device supports three different modes:

- Intra
- Pano
- Ceph

## 73.9 Boost filter

Activate boost filter for Spectra J Series:

Gain filter for better analysis by the caries filter

When the boost filter is active (preset), the  symbol is burned into the image in the upper right corner.

## 74 Devices

See also:

- "29 Adding devices"

A list of all connected devices is displayed in the *Devices* configuration.

### Devices

|                          |   |
|--------------------------|---|
| Unit                     | This shows a preview image of the connected device (where present).   |
| Name                     | Name of the device  |
| Connection               | Specifies the connection settings   |
| Connection state         | Specifies whether the device is currently connected and can be used   |
| Use in VistaSoft Connect | For video: Option for activating the unit for VistaSoft Connect<br>For X-ray: Switch to the configuration <i>X-ray stations</i> |

How a device is configured depends on the device type.

If a device is selected in the displayed list, a selection of the following options appears below it:

- Configuration
- Manage connection settings

The available sub-menus vary according to which device was marked in the list.

With *Register network device* you can connect a device with the software via its IP address.

If the configuration of the device is opened via *Configure* then a display of the device and the name of the device are shown.

If the firmware is out of date and needs to be updated a corresponding message is displayed.

Depending on the device type, various submenus for the configuration are displayed underneath this.

## 74.1 VistaScan / ScanX

### Configuration



#### WARNING

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

- › Changes must only be performed by the manufacturer or by a person/body authorized by the manufacturer to do this.
- › Check and, if necessary, correct the changed image quality by importing a test X-ray image.



Depending on the device, some functions may not be available.

#### Acquisition modes

All acquisition modes that are available on the selected device are listed under **acquisition mode**:. Once you have selected an acquisition mode from the list, you can implement various settings in the tree directory. They vary depending on the connected device and can depend on the installed firmware version.

**Duplicate** is used to create a copy of the image acquisition mode.

You can delete the image acquisition mode by clicking on **Delete**.

At least one acquisition mode must always be defined. If only the acquisition mode for this device exists then it must not be deleted.

All acquisition modes for a device can be imported or exported ( **⋮** > **Import acquisition modes** or **⋮** > **Export acquisition modes**).

During the import, any existing acquisition modes are overwritten, new acquisition modes are created additionally.

A folder is created on the desktop during the export.

All acquisition modes of a device can be reset to the default settings ( **⋮** > **Reset all acquisition modes to default settings**).

#### Firmware



#### CAUTION

**Equipment damage from an incorrect firmware update**

No image acquisition possible

- › Only trained specialists or personnel trained by the manufacturer are permitted to perform a firmware update.



Current firmware files for the device can be found at [www.duerrdental.net](http://www.duerrdental.net).

#### Firmware

|                    |   |
|--------------------|---|
| Current version:   | The firmware installed on the device is displayed.  |
| New version:       | If a new firmware version is selected via <b>Select firmware file</b> , the data for this version is displayed.   |
| Note:              | Information concerning the installation and the selected firmware file is displayed (e.g. selected firmware file is older than the one installed on the device; selected firmware file is not compatible with the version installed on the device). |
| Expected duration: | The expected duration of the update is displayed.   |

### Device settings

All device settings that are available on the selected device are listed under **Device settings**. In the tree directory, various settings can be adjusted. They vary depending on the connected device and can depend on the installed firmware version.

#### Device settings

|                  |  |
|------------------|--|
| Standby settings | If this function is activated then the device will switch to standby mode after the selected time. |
|------------------|--|

### Oscilloscope

The current ambient brightness or the incidence of extraneous light into the connected device is displayed under **Oscilloscope**.

### Report

The report file saved to the device is displayed under **Report**. Via **Export**, the report file is saved under **C:\ProgramData\Duerr\VistaSoft\Data\DiagnosticLogs** with the name **device\_reports.log**. This can be forwarded to the support/service technician for diagnosis.

In addition, after the report file has been created, a support file can be created (see "50 Creating a support file"). This then also contains the report file in addition to the log files.

### Maintenance

Under **Maintenance**, various device parameters are displayed or the service tool can be launched (depending on the connected device).

The device parameters have an actual value display and a target value display. Defective components or malfunctions can be identified with their help. Similarly, various maintenance functions are displayed that can be used to check the function of components.

### Configure device password

For devices with this function, communication between the device and the imaging software is password protected.

If there are special requirements, this password can be changed in the software. When changing the password, the new password is transmitted to the device.

If the password on the device and in the imaging software do not match, the password must be entered.



If the device is reset to factory settings (e.g. after a repair), the password is also reset to the default password.

The default password is: 123456

### Manage connection settings

For a connected image plate scanner, general connection settings can be queried and changed in the structure tree, e.g. IP address, subnet mask, gateway.



The IP address 2 can be queried and changed under **Advanced** (does not apply to VistaScan Nano). Where possible, this should not be changed as it acts as an "Emergency IP address" if the IP address 1 is lost. The IP address 2 must only be adjusted if there is a conflict with another IP address available in the network. The changed IP address should then be noted and stored by the device. If the IP address 2 is also lost, the device must be reset to the factory settings – this causes all settings to be lost.

## 74.2 VistaCam / CamX

### Configuration

#### Firmware



#### CAUTION

#### Equipment damage from an incorrect firmware update

No image acquisition possible

- › Only trained specialists or personnel trained by the manufacturer are permitted to perform a firmware update.



Current firmware files for the device can be found at [www.duerrdental.net](http://www.duerrdental.net).

#### Firmware

|                    |   |
|--------------------|---|
| Current version:   | The firmware installed on the device is displayed.  |
| New version:       | If a new firmware version is selected via <b>Select firmware file</b> , the data for this version is displayed.   |
| Note:              | Information concerning the installation and the selected firmware file is displayed (e.g. selected firmware file is older than the one installed on the device; selected firmware file is not compatible with the version installed on the device). |
| Expected duration: | The expected duration of the update is displayed.   |

#### Device settings

All device settings that are available on the selected device are listed under **Device settings**. In the tree directory, various settings can be adjusted. They vary depending on the connected device and can depend on the installed firmware version.

#### Acquisition settings

|                   |   |
|-------------------|---|
| Camera triggering | Time when the still image is created if the trigger button is pressed: <ul style="list-style-type: none"> <li>– Upon pressing (preset)</li> <li>– On releasing</li> </ul> |
|-------------------|---|

#### Standby settings

|                   |   |
|-------------------|---|
| Standby time      | Time until automatic switch-off if the camera is not moved.<br>Preset: 2 minutes          |
| Automatic wake-up | The camera switches on as soon as the image acquisition window is opened in the software. |

#### Report

The report file saved to the device is displayed under **Report**. Via **Export**, the report file is saved under `C:\ProgramData\Duerr\VistaSoft\Data\DiagnosticLogs` with the name `device_reports.log`. This can be forwarded to the support/service technician for diagnosis.

In addition, after the report file has been created, a support file can be created (see "50 Creating a support file"). This then also contains the report file in addition to the log files.

#### Maintenance

Various signals can be checked with the aid of a status display under **Maintenance** (depending on the connected device).

## 74.3 VistaRay / SensorX



Every X-ray sensor requires individual calibration data. This data is enclosed with the sensor on a calibration data carrier and needs to be installed for each sensor.

### Configuration



#### WARNING

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

- › Changes must only be performed by the manufacturer or by a person/body authorized by the manufacturer to do this.
- › Check and, if necessary, correct the changed image quality by importing a test X-ray image.



Depending on the device, some functions may not be available.

### Acquisition modes

All acquisition modes that are available on the selected device are listed under *acquisition mode*:. Once you have selected an acquisition mode from the list, you can implement various settings in the tree directory. These vary depending on the connected device.

*Duplicate* is used to create a copy of the image acquisition mode.

You can delete the image acquisition mode by clicking on *Delete*.

At least one acquisition mode must always be defined. If only the acquisition mode for this device exists then it must not be deleted.

All acquisition modes for a device can be imported or exported ( : > *Import acquisition modes* or : > *Export acquisition modes*).

During the import, any existing acquisition modes are overwritten, new acquisition modes are created additionally.

A folder is created on the desktop during the export.

All acquisition modes of a device can be reset to the default settings ( : > *Reset all acquisition modes to default settings*).

### Report

The report file saved to the device is displayed under *Report*. Via *Export*, the report file is saved under *C:\ProgramData\Duerr\VistaSoft\Data\DiagnosticLogs* with the name *device\_reports.log*. This can be forwarded to the support/service technician for diagnosis.

In addition, after the report file has been created, a support file can be created (see "50 Creating a support file"). This then also contains the report file in addition to the log files.

## 74.4 VistaPano / ProVecta S-Pan

### Configuration



#### WARNING

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

- › Changes must only be performed by the manufacturer or by a person/body authorized by the manufacturer to do this.
- › Check and, if necessary, correct the changed image quality by importing a test X-ray image.



Depending on the device, some functions may not be available.

#### Device settings

All device settings that are available on the selected device are listed under *Device settings*. In the tree directory, various settings can be adjusted. They vary depending on the connected device and can depend on the installed firmware version.

#### Panoramic settings

|   |  |
|---|--|
| Accept S-PAN image automatically          | <p>If this function is enabled then only the S-PAN image is transmitted to VistaSoft.</p> <p>If this function is disabled then the S-PAN image and the standard image are transmitted to VistaSoft. During import you will then need to decide which image is to be saved in VistaSoft. The other image is then discarded.</p> |
| Use patient type 'Child' until the age of | The age up to which the patient type 'Child' can be used during image acquisition can be adjusted.   |

#### Report

The report file saved to the device is displayed under *Report*. Via *Export*, the report file is saved under `C:\ProgramData\Duer\VistaSoft\Data\DiagnosticLogs` with the name *device\_reports.log*. This can be forwarded to the support/service technician for diagnosis.

In addition, after the report file has been created, a support file can be created (see "50 Creating a support file"). This then also contains the report file in addition to the log files.

#### Maintenance

You can launch the configuration programs AISU and DDIPS by going to *Maintenance* and then *Calibration* in the structure tree. These programs are described in detail in the installation instructions for the device.

#### Manage connection settings

With a VistaPano / ProVecta S-Pan connected, general connection settings for the connected device can be queried and changed in the structure tree, e.g. operating mode.

## 74.5 VistaVox / ProVecta 3D Prime

### Configuration



#### WARNING

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

- › Changes must only be performed by the manufacturer or by a person/body authorized by the manufacturer to do this.
- › Check and, if necessary, correct the changed image quality by importing a test X-ray image.



Depending on the device, some functions may not be available.

### Report

The report file saved to the device is displayed under *Report*. Via *Export*, the report file is saved under *C:\ProgramData\Duerer\VistaSoft\Data\DiagnosticLogs* with the name *device\_reports.log*. This can be forwarded to the support/service technician for diagnosis.

In addition, after the report file has been created, a support file can be created (see "50 Creating a support file"). This then also contains the report file in addition to the log files.

## 74.6 TWAIN device

### Configuration



#### WARNING

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

- Changes must only be performed by the manufacturer or by a person/body authorized by the manufacturer to do this.
- Check and, if necessary, correct the changed image quality by importing a test X-ray image.



Depending on the device, some functions may not be available.

#### Device settings

Under *Device settings* you will see a listing of all of the device settings. In the tree directory, various settings can be adjusted.

#### TWAIN settings

|                |   |
|----------------|---|
| Intraoral:     | If the TWAIN source supplies an "intra" image, then a tick needs to be checked next to <b><i>Intraoral:</i></b> . Multiple selection is possible. |
| Panorama:      | If the TWAIN source supplies a "pano" image, then a tick needs to be checked next to <b><i>Panorama:</i></b> . Multiple selection is possible.    |
| Cephalometric: | If the TWAIN source supplies a cephalometric image, then a tick needs to be checked next to <b><i>Ceph:</i></b> . Multiple selection is possible. |
| Video:         | If the TWAIN source supplies a video image then the box next to <b><i>Video:</i></b> needs to be ticked.  |
| Serial number: | The serial number of the TWAIN source must be entered.  |
| Order number:  | The item number of the TWAIN source must be entered.  |

#### Report

Under *Report* you will see the report file of the TWAIN source. Via *Export*, the report file is saved under *C:\ProgramData\Duerr\VistaSoft\Data\DiagnosticLogs* with the name *device\_reports.log*. This can be forwarded to the support/service technician for diagnosis.

In addition, after the report file has been created, a support file can be created (see "50 Creating a support file"). This then also contains the report file in addition to the log files.

## 75 Acquisition types

See also:

- "31.1 Configuring image acquisition types"

In the upper area, the last used image acquisition types for X-rays and video are displayed.

All available image acquisition types in the current configuration are displayed under **Image acquisition types**. Only the image types for the licensed modules (X-ray and video) are displayed (see "7 Licensing").

Click on an image acquisition type to select it and then click **Configure**. The configuration of the acquisition type can be adjusted to the individual requirements here.

### 75.1 Configuration

|                     |  |
|---------------------|--|
| Mode class:         | Each image acquisition type is assigned to a mode class. The mode classes group the image acquisition types e.g. into intrao-ral images ( <i>Intra</i> ) or panoramic images ( <i>Pano</i> ).  |
| Acquisition source: | <b>Last acquisition source used</b><br>The last used X-ray station is entered automatically when using the image acquisition type.   |
|                     | <b>Manually selected acquisition source</b><br>The X-ray station to be used must be manually selected when using the image acquisition type.   |
|                     | All created X-ray stations are displayed in the list. The X-ray stations marked as favourites appear first in the list.<br>If an X-ray station is selected, this X-ray station is automatically entered when the image acquisition type is used. |
| Acquisition mode:   | <b>Last mode used</b><br>The last used mode is entered automatically when using the image acquisition type.  |
|                     | <b>Default mode</b><br>The default mode for the image acquisition type is entered auto- matically when using the image acquisition type.   |
| Favourite:          | If an image acquisition type is marked as a favourite, then it appears as a button in the menu bar, from where it can be used directly.  |

## 76 X-ray stations

If there is a legal requirement for recording X-ray data then the process will depend on the image acquisition device:

- "Creating an X-ray-station using the wizard"
  - VistaPano S / ProVecta S-Pan
  - VistaPano S Ceph / ProVecta S-Pan Ceph
  - VistaVox S / ProVecta 3D Prime
  - VistaVox S Ceph / ProVecta 3D Prime Ceph
- "Creating an X-ray-station manually"
  - All VistaScan / ScanX devices
  - VistaRay / SensorX
  - Cephalometric/panoramic devices without digital image receiver (e.g. with image plate)
  - TWAIN devices

If there is no legal requirement for the recording of X-ray data, the option *Create X-ray stations manually* can be deactivated in *Configuration > Application*. As a result, the X-ray station will be automatically created in the background when a device is created, and no further configuration is required (see "Automatic creation of X-ray stations").

See also:

- "30.1 Create an X-ray station"
- "30.2 Configuring an X-ray station"
- "30.4 Deleting an X-ray station"

A list of all the created X-ray stations is displayed in the *X-ray stations* configuration.

The list shows the following properties of the X-ray stations:

|                          |   |
|--------------------------|---|
| Description              | Name of the X-ray station, can be changed in <i>Configure</i> .   |
| Operator                 | User of the X-ray station, can be changed in <i>Configure</i> .   |
| Category                 | X-ray emitter category (e.g. intraoral)   |
| Favourite                | This X-ray station is displayed first in the selection list when the X-ray image acquisition is started.  |
| Use in VistaSoft Connect | Device is visible to third-party application via VistaSoft Connect. (only with VistaSoft Connect licence) |
| Linked workstation       | Workstation that automatically accepts a new task.  |

The list can be sorted by clicking in the headline of the corresponding column.

The following possible settings depend on the device.

### 76.1 Configuration

#### General

|              |  |
|--------------|--|
| Designation: | Name of the X-ray station<br>All X-ray stations must be clearly and uniquely named. A designation must not be used more than once. |
| Operator:    | Name of the owner/operator   |
| Address:     | Address of the owner/user  |

### X-ray emitter

|           |   |
|-----------|---|
| Selection | <p>Selection list showing the created X-ray emitters.</p> <p>A new X-ray emitter can be created by clicking <b>Create X-ray emitter...</b></p> <p>You can click on <b>Configure</b> to change the configuration of an X-ray emitter that has already been created. The category (e.g. intraoral) cannot be changed.</p> <p>You can delete an X-ray emitter via <b>Delete</b> provided it is not being used by an X-ray station.</p> |
|-----------|---|

### Image acquisition device

|  |  |
|--|--|
| Unit:  | Selecting a device from the selection list   |
| Magnification:   | <p>Magnification depends on the X-ray emitter and the assigned image type. The value must be between 1.0 and 10.0.</p> <p>In manual configuration, a value is suggested when the X-ray emitter is selected:</p> <ul style="list-style-type: none"> <li>– Intra: 1.05</li> <li>– Pano: 1.25</li> <li>– Ceph: 1.1</li> </ul> <p>The value may need to be adjusted, e.g. for VistaPano / ProVecta S-Pan (Pano 1.3 and Ceph 1.14). See also the instructions for the image acquisition device.</p> |
| Activate calculation of the incident dose at the receptor: | <p>If the image acquisition device supports automatic calculation of the incident dose at the receptor from the image data, manual entry of the X-ray parameters is no longer necessary.</p> <p>The setting <b>Automatic calculation of the incident dose at the image receiver from the image data</b> must also be activated in the practice configuration, see "78.1 Configuration".</p>  |

## 76.2 Parameters

Depending on the image acquisition device and the X-ray emitter assigned to the X-ray station, different suggested values can be defined for the X-ray parameters for each image acquisition type. It makes the work easier if the X-ray exposures are always taken with the same values. The X-ray parameters are automatically saved with the image information (see "41.1 Importing the X-ray image using VistaScan / ScanX"). They can be adjusted here as required. The proposed values for the X-ray parameters are only entered automatically for the first image. If there are further images from the same image acquisition then the X-ray parameters can be copied from the first image with **Apply values** or they can be manually entered.

When configuring the various acquisition types, you can apply the values from another X-ray station that uses similar or identical values. This saves you the trouble of entering each value separately since you only need to change those values that are different. To do so, go to the area in the lower section labelled **Apply Parameters from this X-ray Station:**, then select the X-ray station whose values you wish to use and click **Apply**.

## 76.3 Image processing

For every image created with this X-ray station the predefined image processing steps are performed automatically.

The image processing steps can be changed on the light table and saved (see "44.2 Managing default image settings"). The values are only displayed in the configuration.

You can click on **Restore default settings** to reset any changes made in the image processing steps.

**Filter**

|                  |  |
|------------------|--|
| Selected filter: | Predefined filters that support diagnosis (see "Filter") |
|------------------|--|

**Windowing****Settings for image corrections and histogram**

|              |   |
|--------------|---|
| Limit white: | Percentage of greyscales converted to white |
|--------------|---|

|              |   |
|--------------|---|
| Limit black: | Percentage of greyscales converted to black |
|--------------|---|

|             |                         |
|-------------|-------------------------|
| Brightness: | Brightness of the image |
|-------------|-------------------------|

|           |                       |
|-----------|-----------------------|
| Contrast: | Contrast of the image |
|-----------|-----------------------|

|        |  |
|--------|--|
| Gamma: | < 1: Bright areas become darker<br>> 1: Dark areas become brighter |
|--------|--|

**Display**

|            |   |
|------------|---|
| Mirroring: | Horizontal or vertical inversion of the image |
|------------|---|

**Annotation**

|            |  |
|------------|--|
| Edge mask: | Image masking, the area outside the mask is hidden |
|------------|--|

|            |   |
|------------|---|
| Greyscale: | Colour of the edge mask; choose between 0 (black) and 255 (white) |
|------------|---|

## 76.4 Task management

|                               |  |
|-------------------------------|--|
| Default adoption workstation: | If a workstation has been selected from the selection list, the workstation automatically accepts the task.<br>With tasks for images with VistaPano, VistaVox, ProVecta S-Pan or ProVecta 3D Prime, the unit goes directly into recording standby. |
|-------------------------------|--|

## 76.5 Delete

1. Select the required X-ray station in the list.
2. Click *Delete*.
3. Confirm the deletion in the dialog window.

## 77 Interfaces

Under *Interfaces* you can activate and configure the interfaces e.g. to the practice management system.



It is recommended that the practice management system is configured first.

|  |  |  |
|--|--|--|
| <b>VDDS media</b>                            |  | <b>Data exchange with practice management system via VDDS media interface</b>  |
| Use VDDS:                                    |  | If this option is enabled, patient data can be transmitted from a practice management system and images can be transferred back to the practice management system.           |
| Referenced practice management system:       |  | Select this via the selection list of the practice management system used.   |
| Support level 6 (call of the import module): |  | If this option is enabled then changes made to an image will be automatically transferred to the practice management system.   |
| <b>Patient import</b>                        |  | <b>Direct copying of patient data from the practice management system</b>  |
| Import path:                                 |  | Import directory for patient data in the patimport.txt format. This path must be specified as an export path in the practice management system.                              |
| <b>Image export</b>                          |  | <b>Exports the images into directories and sends them to the practice management system</b>  |
| Auto-export X-ray:                           |  | If this option has been activated, the X-ray images that have been imported, along with the relevant patient data, will automatically be saved to a defined directory.       |
| Auto-export video:                           |  | If this option has been activated, the video images that have been created, along with the relevant patient data, will automatically be saved to a defined directory.        |
| Image export modes...                        |  | Opens the configuration for the image export modes (see "Image export modes...").  |
| <b>Cybersecurity</b>                         |  |  |
| Check third-party software for changes       |  | If the option is enabled, third-party software is checked for changes when it is accessed from the imaging software. See also "Check third-party software for changes"       |
| <b>DICOM/BDW</b>                             |  | <b>Data exchange via the DICOM interface</b>   |
| DICOM workstation:                           |  | Defines the workstation as a DICOM workstation. This allows the DICOM functionality to be used on this workstation (see "35.1 Defining workstation as a DICOM workstation"). |
| DICOM Print:                                 |  | You can output X-ray images on DICOM printers at this workstation.   |
| Basic Dental Workflow:                       |  | The interface to the practice management program is active at this workstation.  |
| DICOM/BDW partner...                         |  | Opens the configuration of the DICOM/BDW partners (see "DICOM/BDW partner...").  |

| DICOM/BDW                                      | Data exchange via the DICOM interface   |
|--|---|
| RIS query...                                   | Opens the configuration of the RIS query (see "RIS query...").  |
| Assignment of acquisition types...             | DICOM attributes can be assigned to certain acquisition types in the imaging software (see "Assignment of acquisition types...").   |
| Displays the task list...                      | Specifies which attributes are to be displayed in the task list (see "Show task list...").  |
| Task management                                | task management settings  |
| Automatic completion of task:                  | Specifies what happens to a task in progress if the patient is logged out or if another task is started: <ul style="list-style-type: none"> <li>– Ask</li> <li>– Complete automatically</li> <li>– Mark as paused</li> <li>– Complete when images have been acquired</li> </ul> |
| Retention period for data of a completed task: | Specifies for how many days the task data (not the image or patient data) of a completed task will be retained.   |
| Standard selection list:                       | Specifies whether the patient list or task list should be opened.   |

## 77.1 Image export

### Image export modes...

A number of different image export modes can be set, defining the image status, file format and export path. Some image export modes are set by default and can be modified.

The image export modes are saved practice-specifically for all workstations.

The image export mode  can be selected when exporting images by going to the light table menu and in the image inspector under **Multiple selection**. In addition to the configured image export modes, images can also be individually exported with the user-defined export.

**Auto export** defines which image files are to be exported when logging out of a patient record or when exporting images manually. To do this, the image export interface must be configured accordingly (see "77 Interfaces"). If the **Diagnosis** image status has been set, auto exporting will only be performed if a diagnosis has been saved and the image view that goes with it is present.

When you click on an image export mode in the list displayed, the following options will appear below it:

- **Configure**: Allows you to display and change settings for the selected mode (see "Configuration").
- **Duplicate**: Duplicates the mode.
  - The details for the duplicated mode can then be modified.
- **Delete**: Deletes the highlighted image export mode.

**Create image export mode...** can be used to create a new image export mode (see also "Image export modes...").

### Configuration

The settings for the highlighted export mode can be displayed and changed under **Configure**.

| Configuration     |  |
|-------------------|--|
| Name:             | A name can be assigned to this export mode.  |
| Destination type: | Go to the selection list to choose whether the software is to export an image file or a DICOMDIR file. |

## Configuration

|                            |  |
|----------------------------|--|
| File path:                 | <p>The software exports the selected image to this path.</p> <p>Go to the <b>Placeholder</b> selection list to add predefined placeholders (e. g. patient name) to the file path. The software then adds the corresponding values to the file path.</p> <p>As the export modes are applied to all workstations, we recommend also using the placeholders in the file path. This ensures that the stated file paths work on all workstations.</p> <p>Go to <b>Preview</b> to see an example of how the file path and file name will look when you export images.</p> <p>The placeholder <b>%DiscWriter%</b> is used to save the data to a burning directory for a CD/DVD. The actual burning process then needs to be started using separate disc burning software.</p> |
| File name:                 | <p>Go to the <b>Placeholder</b> selection list to add predefined placeholders (e. g. patient name) to the file name. The software then adds the corresponding values to the file name.</p> <p>We recommend separating the placeholders with underscores. This makes the file name easier to read.</p>  |
| Preview:                   | <p>A preview is shown as an example of how the file path and file name will look with the settings you have chosen.</p>  |
| Image state:               | <p>Go to the selection list to set how the image is to be exported.</p> <ul style="list-style-type: none"> <li>– Current: The image will be exported in its current status.</li> <li>– Original image: The image will be exported as it was originally recorded, irrespective of how it has been edited since being recorded.</li> <li>– Last change: The image will be exported as it is after the most recent change.</li> <li>– Diagnosis: The image will be exported in the image view for which an Indication has been entered.</li> </ul>  |
| 2D X-ray format:           | <p>The export format for the 2D X-ray images can be set via the selection list.</p>  |
| 3D X-ray format:           | <p>The export format for the 3D X-ray images can be set via the selection list.</p> <p>DICOM: DICOM data record</p> <p>DICOM series: individual layer images of the DICOM data record</p> <p>DICOM 2D view: screenshot of the panoramic view</p>   |
| Video format:              | <p>Go to the selection list to set the export format for the video recordings.</p>   |
| Surface scan format:       | <p>The selection list can be used to select the export format for the surface scan.</p>  |
| Anonymization of the data: | <p>Removes all personal data during export, making it impossible to match the image to a patient.</p>  |
| Auto-export:               | <p>If the checkbox is ticked then this image export mode is made available as the automatic export option.</p> <p>Auto exporting for videos or X-rays also needs to be enabled under <b>Interfaces</b> for this.</p>   |
| Expand existing DICOMDIR:  | <p>An existing DICOMDIR directory is expanded with the new data instead of deleting the directory and re-creating it.</p>  |

**Configuration**

Embed Viewer: A link to the viewing software (web application) is also exported to the DICOMDIR directory.

**77.2 VistaSoft Connect****Patient data**

Complete patient info: Requirement for maintaining an X-ray control book in the imaging software  
 If a third party application fails to provide a complete patient data record, the patient data must be manually completed prior to the start of the image acquisition process.  
 A patient data record consists of at least:

- Patient ID
- First name
- Surname
- Date of birth

Pregnancy status required: If the pregnancy status is not passed on by the third-party application, this information will need to be completed in the patient data.

**Display**

Use minimal VistaSoft Connect interface: Images are transferred directly to the third-party application. Displaying and editing the images is then only possible in the third-party application.  
 The minimum Connect interface can only be used if the following conditions apply:

- Only one practice has been created
- User management is disabled (only one user without a password has been created)
- X-ray parameters are not mandatory (see "78 Practices")

Always display windows of VistaSoft in the foreground: The VistaSoft window remains in the foreground, on top of the third-party software.

**X-ray image acquisition**

Use standard acquisition types: Image acquisition jobs are automatically started with the default acquisition type. The acquisition type can be manually changed during image acquisition.

**Image export**

Create BMP file: Select file formats to be created if the third-party application does not provide a file format

Create PNG file:

Create XYZ file:

### Automatic termination of the image acquisition

Ending after the first image acquisition:

How the image acquisition is stopped can be controlled via the third-party application or via VistaSoft Connect:

- **As defined in task:** The third-party application controls whether image acquisition is automatically closed after receipt of the first image. (Default)
- **End immediately:** Image acquisition is closed automatically after the first image, regardless of the setting in the third-party application.
- **Wait for user action:** Image acquisition is closed with the button **Stop image acquisition**, regardless of the setting in the third-party application.

### SmartScan support for VistaSoft Connect

Activate SmartScan workflow for VistaSoft Connect:

The third-party application can acquire images with the SmartScan workflow.

SmartScan assistance cannot be used together with the following settings. The settings will be ignored:

- Minimal VistaSoft Connect interface
- Automatic stopping of image acquisition with the option **End immediately**

Do not use this for single workstation installations, as there may be incompatibilities with third-party applications.

## 77.3 DICOM/BDW

Selection of DICOM/BDW functionality is workstation-specific. In the case of multi-user installations, the required licence is managed as a floating licence.

|                        |   |
|------------------------|---|
| DICOM workstation:     | Share images with DICOM systems           |
| DICOM Print:           | Outputting images to DICOM printers       |
| Basic Dental Workflow: | Interface to practice management software |

### DICOM/BDW partner...

See also:

- "35 Configuring the DICOM/BDW interface"

A list of all created DICOM/BDW partners (PACS, RIS and printer) appears in the configuration *DICOM/BDW partners....*

|                           |  |
|---------------------------|--|
| Name:                     | Display name for the DICOM/BDW partner   |
| Role:                     | Shows whether the connection is an RIS or PACS connection or a printer   |
| Partner AE Title:         | AE Title of the DICOM/BDW partner  |
| Own AE Title:             | AE Title of workstation<br>With DICOM you can choose between either the automatically generated name or a user-defined name. |
| Host:                     | IP address or host name of the DICOM/BDW partner   |
| Port:                     | Port of the DICOM/BDW partner  |
| Connection test (C-ECHO): | Starts a connection test to the DICOM/BDW partner  |

If a DICOM partner is marked in the displayed list, options for selection will appear underneath that may include the following:

- "Configuration"
- Delete (see "Deleting RIS partners" or "Deleting PACS partners")

### Configuration

The settings for the highlighted DICOM partner can be displayed and changed under *Configure*.

#### General settings

|                           |   |
|---------------------------|---|
| Name:                     | Display name for the RIS/PACS/printer connection.   |
| Role:                     | You can use the selection list to choose whether an RIS or PACS connection or a printer connection is to be established to the DICOM partner. |
| Partner AE Title:         | DICOM Application Entity Title (AE Title) set at the DICOM partner  |
| Own AE Title              | DICOM Application Entity Title (AE Title) for this workstation  |
| Host:                     | IP address or host name of DICOM partner  |
| Port:                     | Port of DICOM partner   |
| Connection test (C-ECHO): | Starts a connection test to the DICOM partner   |

#### Print settings

|                      |  |
|----------------------|--|
| Medium type:         | Selection of the print medium (paper, film)  |
| Film orientation:    | Selection of the orientation (portrait or landscape)   |
| Film size:           | Selection list, corresponds to the DICOM default   |
| Film destination:    | Collection tray, corresponds to the DICOM default  |
| Greyscale bit depth: | Number of bits per pixel   |
| Priority:            | Defines the position of the print task in the queue  |
| Decimate / crop:     | Treatment of the image if it is too large for the print medium   |
| Magnification type:  | Treatment of the image if it is smaller than the print medium  |
| Smoothing type:      | Type of smoothing used for cubic magnification (max. 16 characters)  |
| Edge density:        | Density of the area around the image or between images.  |
| Polarity:            | Selection of normal or inverse printing for the image  |
| Crop:                | Prints a bounding frame (if supported by the printer)  |
| Configuration:       | Additional, printer-specific configuration settings (max. 1024 characters). Refer to the manual of the printer used. |

#### Transfer settings (only for PACS)

|                  |  |
|------------------|--|
| Image state:     | The selected image state will be exported.<br>For explanations of the image states, see "Image export modes...".                                   |
| 2D X-ray format: | 2D X-ray images are always exported in the DICOM format. The format cannot be changed.   |
| 3D X-ray format: | The export format for the 3D X-ray images can be set via the selection list.<br>For explanations of the image states, see "Image export modes...". |
| Video format:    | Go to the selection list to set the export format for the video recordings.  |

### Transfer settings (only for PACS)

|                            |  |
|----------------------------|--|
| Anonymization of the data: | Removes all personal data during export, making it impossible to match the image to a patient.   |
| Send automatically:        | The imaging software will transfer the recorded images automatically to the PACS as soon as the task is finished. Otherwise the images must be transferred manually to the PACS, see "39.3 Transferring an image to PACS". |

### RIS query...

The settings for the highlighted DICOM partner can be displayed and changed under *Configure*.

### RIS query

|                             |   |
|-----------------------------|---|
| RIS-/BDW partner:           | The selection list can be used to select an RIS partner. The task list is queried from this RIS partner.<br>If no RIS partner has yet been created, see "Configuring the RIS query".  |
| AE Title:                   | DICOM Application Entity Title (AE Title) for which the task has been planned.<br><i>Any</i> means: All tasks   |
| Type of device:             | The selection list can be used to select a device type for which tasks have been created.<br>The following device types are available for selection: <ul style="list-style-type: none"> <li>– Any</li> <li>– IO (Intra-Oral Radiography)</li> <li>– CR (Computed Radiography)</li> <li>– PX (Panoramic X-Ray)</li> <li>– CT (Computed Tomography)</li> <li>– DX (Digital Radiography)</li> <li>– XC (External Camera Photography)</li> <li>– User-defined</li> </ul> <i>Any</i> means: All tasks<br><i>User-defined</i> means: At least one user-defined device type must be entered into the text field. |
| Performing Physician:       | Name of person scheduled to perform task.   |
| Start Date:                 | Narrows the search to tasks planned for a certain date or date interval.  |
| Maximum number of elements: | Maximum number of tasks displayed.  |
| Automatic update:           | If the function is set to <i>At Regular Intervals</i> , then you must set an interval (in minutes). This will cause the selection list to be updated at the defined interval.   |

### Assignment of acquisition types...

See also:

- "35.5 Assigning DICOM attributes to certain acquisition types"

The imaging software allows you to assign certain DICOM attributes to an acquisition type (for instance DICOM attribute *IO* to the acquisition type *Intra*). Depending on the configuration of the imaging software, this will cause acquisition to begin directly using the appropriate acquisition type.

If no appropriate assignment is found, or if no assignment has been made, the standard assignment will be used:

| DICOM attribute                                    | Meaning                     | Acquisition type   |
|--|-----------------------------|--------------------|
| No DICOM attribute present                         |                             | Undefined          |
| OT   | Other type                  |                    |
| CR   | Computed Radiography        |                    |
| DX   | Digital Radiography         |                    |
| DICOM attribute is not one of the attributes below |                             |                    |
| IO   | Intra-Oral X-ray            | Intraoral          |
| XC   | External Camera Photography | Video              |
| ES   | Endoscopy                   | Video              |
| PX   | Panoramic X-ray             | Panoramic Standard |
| CT   | Computed Tomography         | CBCT               |

### Show task list...

See also:

- "35.6 Customising the task list"

When working with DICOM tasks, you can configure which DICOM attributes are to be displayed in the task list.

|         |   |
|---------|---|
| List    | The attribute is shown as a column in the task list                     |
| Details | The attribute is shown in the <i>DICOM</i> area when a task is selected |
| Hidden  | The attribute will not be displayed                                     |

## 77.4 Task management

|   |   |
|---|---|
| Automatic finishing of task:              | <p>Specifies what happens to the tasks when they are closed.</p> <ul style="list-style-type: none"> <li>– <b>Ask</b>: The imaging software asks whether the task should be paused or finished.</li> <li>– <b>Finish automatically</b>: The task will be automatically finished when it is closed (due to patient change, program termination or start of another DICOM task, for example).</li> <li>– <b>Mark as paused</b>: The task will be automatically paused when it is closed (due to patient change, program termination or start of another DICOM task, for example).</li> <li>– <b>Finish when images have been acquired</b>: The task will be automatically finished when images are present.</li> </ul> |
| Delete finished or cancelled tasks after: | Specifies how many days the system will wait before deleting finished or cancelled tasks.   |
| Standard selection list:                  | <p>Specifies which selection list will be opened by default (when launching the imaging software, for example).</p> <ul style="list-style-type: none"> <li>– <b>Patients</b>: The <i>Select patient</i> flyout will be opened by default.</li> <li>– <b>Tasks</b>: The <i>Tasks</i> flyout will be opened by default (practical when using DICOM).</li> </ul>   |

## 78 Practices

A list of all the created practices will be displayed in the *Practices* configuration. The settings for a practice can be changed via "78.1 Configuration".

See also:

- "26.1 Create practice"
- "26.2 Configuring the practice"
- "26.3 Deleting a practice"

### 78.1 Configuration

#### General

|                  |   |
|------------------|---|
| Name:            | Name of the practice<br>Every practice must be clearly and uniquely named. A designation must not be used more than once. |
| Address:         | Address of the owner/user   |
| BDW practice ID: | Identification number of the practice; this must match the ID in the practice management program.                         |

#### Settings

|  |  |
|--|--|
| Use retention period for X-rays:                 | If the retention period for X-ray images has been activated, the X-ray images cannot be deleted until the retention period entered has expired.  |
| Retention period for X-ray images:               | Period during which the acquired X-ray images cannot be deleted. The X-ray images cannot be deleted until the retention period has expired. The retention period begins at the start of the patient's 18th year. X-ray images cannot be deleted before this.<br>Some countries have a legally defined retention period for X-ray images. Example: In Germany a retention period of 10 years applies. The X-ray image for a 16-year old patient cannot be deleted until a period of 12 years has elapsed. |
| Delete VistaSoft Connect patients automatically: | Temporary patients automatically created by VistaSoft Connect are automatically deleted after the retention period and additional time period.   |
| Additional period for VistaSoft Connect:         | Time period after which the VistaSoft Connect data is deleted if the option <i>Automatically delete VistaSoft Connect patients</i> is activated. Video images are deleted immediately after this period. For X-ray images, this period is in addition to the retention period.<br>In the case of short periods, this function should only be used if the third-party application can ensure that the image data is stored there permanently.   |
| Mandatory fields:                                | Via the selection list, you can choose whether the <i>Patient ID</i> or <i>Name and date of birth</i> are mandatory fields. When a new patient record is created, the mandatory fields must always be completed. If this is not done, the patient record cannot be created.<br><i>Patient ID</i> is required for VistaSoft Connect.  |
| Allow changes to image acquisition date:         | If this check box is ticked the image acquisition date can be changed retrospectively.   |
| X-ray parameters are mandatory entries:          | If this checkbox is enabled, then the X-ray parameters must be entered during the X-ray exposure.  |

**Settings**

|  |   |
|--|---|
| Calibration for automatic calculation of the incident dose at the image receiver | If the check box is ticked and if the X-ray image acquisition device supports the function, the incident dose at the image receiver is calculated automatically from the image data. It is then not necessary to manually enter the X-ray parameters for every X-ray image acquisition.<br>Depending on the device, a calibration is performed for this purpose as required during the acceptance test. |
| Import warning for images from external sources:                                 | If the check box is ticked, then when an imported image is opened on the light table a warning is displayed to show that the image was created with an external device.   |
| Check the pregnancy status before starting an image acquisition:                 | If the check box is enabled and the patient is female, the dialog window <b>Pregnancy check</b> is displayed before the start of an X-ray image.  |

**Database**

|                                 |  |
|---------------------------------|--|
| Storage format:                 | Newly acquired or imported images can be saved without compression or with lossless compression.<br>When creating a new practice, the default setting is <b>Lossless compression</b> . This makes the saving and loading of images noticeably faster.  |
| Warning limit for memory space: | The available memory space for the database is determined every time the software is launched. If the amount of memory space remaining has fallen below the set warning threshold, the software will issue a warning in the form of a pop-up. Work can continue.<br>The value is determined according to the additional device components that are installed and is preset.  |
| Error limit for memory space:   | The available memory space for the database is determined every time the software is launched. If the amount of memory space remaining has fallen below the set error threshold, the software will issue a warning in the form of a separate window. You can carry on working with certain restrictions. You cannot create any images, but you can view existing ones. In addition, you can log in to and out of patient records.<br>The value is determined according to the additional device components that are installed and is preset. |
| Database path:                  | This shows the path under which the database has been installed.   |
| Image path:                     | This shows the path under which the images are saved.  |
| DBSWIN X-ray path:              | This is only visible if data has been imported from a DBSWIN installation. This shows the path in which the DBSData X-ray images from DBSWIN are located.<br>If the <b>DBSData</b> folder is moved, the path can be adjusted here.   |
| DBSWIN video path:              | This is only visible if data has been imported from a DBSWIN installation. This shows the path in which the DBSData X-ray images from DBSWIN are located.<br>If the <b>DBSData</b> folder is moved, the path can be adjusted here.   |

**Patient search**

|              |  |
|--------------|--|
| Search mode: | Immediately: The search results are displayed immediately after the input is made<br>Upon confirmation: the search results are not displayed until the enter key is pressed or you click  . |
|--------------|--|

### Patient data

|                            |   |
|----------------------------|---|
| Patient details form:      | For Japan, special fields of patient data are stored and can be activated here, e.g. prefecture, Japanese date of birth format.<br>In addition, depending on the text field, the imaging software switches the input method of Windows automatically to alphanumerical, Hiragana or Katakana. |
| Patient birth date format: | Date (short): displays short date, e. g. 08.04.1975<br>Dat (long): displays long date, e.g. Tuesday, 08 April 1975, or for Japan  |

### Authorisation

|                                      |  |
|--------------------------------------|--|
| X-ray assistant can reassign images: | The authorization to reassign images from one patient to another patient can be deactivated for the role of X-ray assistant. |
|--------------------------------------|--|

## 78.2 Delete

It is generally possible to delete practices once they have been created.

A practice can only be deleted if the following requirements are met:

- No patient data present
- No user logged into this practice
- Practice is not the main practice of a user
- At least one other practice remains in the system after deleting

1. Select the practice you wish to delete.
2. Click *Delete*.
3. Click *Delete* to confirm that you want to delete the practice.

## 79 User

A list of all created users together with their assigned access rights is displayed in the User configuration. Users can be created, edited or deleted.

### 79.1 Definition of user roles

There are four different user roles with different access rights:

- Administrator
- Dentist
- Radiographer
- Standard

The following functions are restricted to certain user roles. All other functions are not restricted and can also be used by a default user.

| Function   | Administrator | Dentist | Radiographer |
|--|---------------|---------|--------------|
| Edit configuration                                 | •             |         |              |
| Start ServerManager                                | •             |         |              |
| Perform acceptance test                            | •             |         |              |
| Manage default image settings                      | •             | •       |              |
| Delete patient                                     | •             | •       |              |
| Delete image                                       | •             | •       |              |
| – Light table: Delete active X-ray image           |               |         |              |
| – Multiple selection: Delete selected X-ray images |               |         |              |
| Change indication                                  | •             | •       |              |
| Image information – change image date and time     | •             | •       | •            |
| Start image acquisition                            | •             | •       | •            |
| Perform consistency check                          | •             | •       | •            |
| Import image                                       | •             | •       | •            |
| Reassign image                                     | •             | •       | •*           |
| Transfer image to PACS partner                     | •             | •       | •            |

\*Authorisation can be deactivated, see "78 Practices".

### 79.2 Edit user

| General           |   |
|-------------------|---|
| User name:        | Name of the user<br>Every user must be clearly and uniquely named. A designation must not be used more than once. |
| Full name:        | First name and surname of the user  |
| Password:         | The password must be at least 4 characters long.  |
| Confirm password: | Enter the password again  |
| Main practice:    | Assigned practice   |
| Roles             |   |
| Practice name     | Selection list with the practices that have been created, see also "26.1 Create practice"                         |



## 80 Features

*Features* contain special functions of the software as well as individually set up interfaces to external applications (third-party applications). The settings of these Features are practice-specific.

1. In the *Practice* selection list, select the desired practice.

### 80.1 3Shape integration

#### Configuration

|                                |  |
|--------------------------------|--|
| Activating 3Shape integration: | Activates the connection to 3Shape TRIOS in Dental Desktop (3DD) |
| Dental Desktop URL:            | URL of the installed software 3Shape TRIOS                       |
| Dental Desktop user name:      | Login username for 3Shape TRIOS                                  |
| Dental Desktop user password:  | Login password for 3Shape TRIOS                                  |
| Test connection                | Tests the connection to 3Shape TRIOS                             |

### 80.2 Automatic image plate quality check

#### Settings for the automatic image plate quality check

|   |   |
|---|---|
| Activating the automatic image plate quality check: | The image plate wear is calculated automatically based on the last 20 images taken. The condition of the image plate is rated from A (as good as new) to E (heavily worn).<br>Only possible for IQ image plates in conjunction with an image plate scanner that can read the RFID chip. |
|---|---|

### 80.3 Image rotation

#### Image rotation

|                                       |   |
|---------------------------------------|---|
| Perform image rotation automatically: | Intraoral X-ray images are automatically rotated immediately after acquisition. |
|---------------------------------------|---|

### 80.4 VistaSoft AID

**Not regulatory cleared in the U.S. Not for sale in the U.S. and Canada.**

#### VistaSoft AID

|                             |  |
|-----------------------------|--|
| Status of the subscription: | Status of the Dürr Dental ID account subscription<br> is displayed if there is no connection to a Dürr Dental ID or no corresponding subscription.<br>The button can be used to switch directly to the Dürr Dental ID account to purchase or manage the subscription. |
| Using caries detection:     | Intraoral X-ray images are checked for the presence of caries. Coloured markings provide an indication of carious lesions.<br>To use this, an internet connection and a link to a Dürr Dental ID with the corresponding subscription are required, see "81 Dürr Dental ID".  |
| Time of caries detection:   | <ul style="list-style-type: none"> <li>– <b>Starts automatically after image acquisition:</b> Intraoral image is analysed immediately and indications of carious lesions are displayed.</li> <li>– <b>Starts manually:</b> Caries detection can be started in the toolbox if required, see "VistaSoft AID".</li> </ul>                                   |

## VistaSoft AID

|                           |  |
|---------------------------|--|
| Standard confidence level | <p>Carious areas are only displayed after caries detection if they correspond to at least the set confidence level.</p> <ul style="list-style-type: none"> <li>– Minimum (&lt; 25%)</li> <li>– Low (&lt; 50%)</li> <li>– Medium (&lt; 75%) (pre-selected)</li> <li>– High (<math>\geq</math> 75%)</li> </ul> <p>The confidence value indicates the AI model's internal certainty that the marked region actually represents caries.</p> <p>The confidence level can be set individually for each image, see "VistaSoft AID".</p> |
|---------------------------|--|

## 80.5 Nerve canal detection

### Settings for nerve canal proposal

|   |   |
|---|---|
| Activate calculation of the nerve canal proposal:       | Automated proposal for the position of the nerve canal in CBCT images.  |
| Automatically calculate nerve canal during acquisition: | The nerve canal proposal is calculated during acquisition. If this option is not activated, the nerve canal proposal can be drawn in using the toolbox. |

## 80.6 VistaSoft Cloud Exchange

### VistaSoft Cloud Exchange

|         |   |
|---------|---|
| E-mail: | <p>Status of the Dürre Dental ID account subscription  is displayed if there is no connection to a Dürre Dental ID or no corresponding subscription.</p> <p>The button can be used to switch directly to the Dürre Dental ID account to purchase or manage the subscription.</p> |
|---------|---|

## 80.7 VistaSoft Implant & Guide

### Configuration

|                                       |   |
|---------------------------------------|---|
| Activating VistaSoft Implant & Guide: | <p>Activating/deactivating the interface to VistaSoft Implant &amp; Guide.</p> <p>A licence is required in order to use VistaSoft Implant &amp; Guide (see "7.3 Purchasing a licence for VistaSoft Implant &amp; Guide").</p> |
| Data path:                            | The software exports the data for VistaSoft Implant & Guide to this path.   |
| Anonymize data before export:         | Removes all personal data during export, making it impossible to match the image to a patient.  |

## 80.8 VistaSoft Trace

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### Configuration

|                           |  |
|---------------------------|--|
| Activate VistaSoft Trace: | <p>Activating/deactivating the interface to VistaSoft Trace.</p> <p>A licence is required in order to use VistaSoft Trace (see "7 Licensing").</p> |
|---------------------------|--|

## 80.9 Tooth detection

Not regulatory cleared in the U.S. Not for sale in the U.S. and Canada.

### Tooth detection

Performing automatic tooth detection on intraoral images:

All visible teeth on intraoral X-ray images are automatically selected. Tooth detection is performed automatically, immediately after acquisition of the X-ray image. The result needs to be checked.

In the case of X-ray images taken on children (younger than 12 at the time of image acquisition) this function is not available.

The image rotation feature is required additionally for this function (see "80.3 Image rotation"). If required, image rotation is also activated at the same time.

## 80.10 Add third-party application

### External application settings

|                  |  |
|------------------|--|
| Name:            | Any name you desire for the external application   |
| Path:            | Path to EXE file of the external application   |
| Parameter:       | <p>Parameters that are to be passed on to the external application along with the image.</p> <ul style="list-style-type: none"> <li>– Patient ID</li> <li>– Patient surname</li> <li>– Patient first name</li> <li>– Date of birth (system based)</li> <li>– Date of birth (yyyymmdd)</li> <li>– Path to image</li> <li>– Path to folder</li> </ul> <p>Multiple parameters can be selected here. Clicking on a further parameter will automatically add it to the existing parameters. As a minimum, the parameters "<i>%PathToFile%</i>" or "<i>%PathToFolder%</i>" must be selected.</p> |
| Image state:     | <p>Go to the selection list to set how the image is to be exported.</p> <ul style="list-style-type: none"> <li>– Current: The image will be exported in its current status.</li> <li>– Original image: The image will be exported as it was originally recorded, irrespective of how it has been edited since being recorded.</li> <li>– Last change: The image will be exported as it is after the most recent change.</li> <li>– Diagnosis: The image will be exported in the image view for which an Indication has been entered.</li> </ul>  |
| 2D X-ray format: | The export format for the 2D X-ray images can be set via the selection list.   |
| 3D X-ray format: | <p>The export format for the 3D X-ray images can be set via the selection list.</p> <p>DICOM: DICOM data record<br/>         DICOM series: individual layer images of the DICOM data record<br/>         DICOM 2D view: screenshot of the panoramic view</p>   |
| Video format:    | Go to the selection list to set the export format for the video recordings.  |

### External application settings

Surface scan format: The selection list can be used to select the export format for the surface scan.

---

Anonymization of the data: Removes all personal data during export, making it impossible to match the image to a patient.

---

## 81 Dürr Dental ID

| Dürr Dental ID | Connection of the installation to a Dürr Dental ID account to activate online functions                             |
|----------------|---|
| Status:        | <i>Not linked:</i> There is no link to the Dürr Dental ID<br><i>Linked:</i> [Name of Dürr Dental ID] link is active |
| Link           | Opens the login page for signing in and linking to the Dürr Dental ID   |
| Unlinking      | Disconnects the link to the Dürr Dental ID.   |

# ? Troubleshooting

## 82 Tips for operators and service technicians

| Error  | Possible cause  | Remedy   |
|--|---|--|
| <b>Practice cannot be deleted</b>  | User is logged in at this practice  | › Log out all users from the practice.   |
|  | Practice is the main practice of a user   | › Switch the main practice to a different practice for all users.                |
|  | Patient data available for the practice   | › Delete all patient data for the practice, save if necessary.                   |
|  | Only this practice has been set up in the software. At least one practice must be set up.           | › Create a new practice. Then the practice can be deleted.                       |
| <b>The device is not displayed in the list of devices</b>                                | Device is not connected to the network/workstation  | › Check the connection, if necessary reconnect.                                  |
|  | Unit not switched on  | › Switch on the unit.  |
|  | An additional component for the corresponding device is not installed.                              | › Install the additional component, see "29.2 Installing additional components". |
|  | The device is not compatible with the version of the imaging software.                              | › Install a version of the imaging software that is compatible with the device.  |
| <b>Transmission of an image from VistaVox to the software was unsuccessful</b>           | Reconstruction failed or software crashed.  | › Restart the imaging software.  |
|  |   | › Start image recovery.  |
| <b>Imaging software running in the background, cannot be opened again from the tray.</b> | Changes to the operating system while the software is running (e.g. updating of the .Net framework) | › Shut down the imaging software in Task Manager.                                |
|  |   | › Restart the imaging software.  |
|  |   | › Restart the computer.  |
|  |   | › Restart the imaging software.  |

 Appendix

## 83 Tips for service technicians



The following descriptions are intended solely for service technicians.

### 83.1 Moving the DBSData directory

In order to simplify the data backup process, the DBSData directory of DBSWIN can be moved with the aid of the Server Manager to the VistaSoftData directory of VistaSoft . The DBSData directory was not changed during migration of the data to VistaSoft .

#### Moving the DBSData directory to a different server

The following conditions must be fulfilled in order to successfully move the DBSData directory:

- ✓ No DBSWIN client started



The process of moving the DBSData directory refers to a standard installation of DBSWIN and VistaSoft. In some cases the individual paths may differ from the actual installation.

1. Launch the Server Manager via *Start > All programs > Duerr Dental > DBSWIN > Server Manager* on the computer acting as the DBSWIN server.
2. Click on .
3. Click on .  
The database is deactivated.
4. Click on .
5. Click on .
6. Under *Local path*: enter the local path of the VistaSoftData directory (default: C:\VistaSoftData) or a subfolder you have created yourself and click *OK* to confirm.  
The local path is copied and the global path is automatically entered.
7. Click *OK* to adopt the settings.

8. Click on .

The database is activated again.

#### Adjusting paths in VistaSoft

1. Launch VistaSoft on the computer acting as the server.  
If VistaSoft has been configured for a single workstation, start the single workstation installation.
2. Click .
3. Click *Practices*.
4. Select the required practice.
5. Click *Configure*.



The following paths apply to a default installation of DBSWIN with one practice.

6. In the *Database* area under *DBSWIN X-ray path*: enter the new path to the directory within the moved DBSData directory that contains the X-ray images (C:\DBS\DBSData\pr1\Xraylmg).
7. In the *Database* area under *DBSWIN video path*: enter the new path to the directory within the moved DBSData directory that contains the video images (C:\DBS\DBSData\pr1\Vidlmg).
8. Restart VistaSoft.

#### Adjusting paths in DBSWIN

Once the DBSData directory has been moved DBSWIN can be uninstalled. If you wish to continue using DBSWIN, the new server needs to be changed in DBSWIN.

1. Launch DBSWIN on the computer acting as the server.
2. Display the configuration via *Options > Display configuration*.
3. Open the connection settings via *Configuration > Change server*.
4. Enter the IP address and the port of the new server.
5. Click *Connect*.  
DBSWIN searches for the DBSData directory on the new server. When the directory is found, a green dot appears under *Connect*. The connection has been established.

6. Click **OK** to save the settings.
7. Launch DBSWIN on all clients.  
DBSWIN shows that no connection to the server can be established.
8. Enter the IP address and the port of the new server.
9. Click **Connect**.  
DBSWIN searches for the new server. When the directory is found, a green dot appears under **Connect**. The connection has been established.
10. Click **OK** to save the settings.

### Moving the DBSData directory to a different location on the same server

The following conditions must be fulfilled in order to successfully move the DBSData directory:

- ✓ No DBSWIN client started

 The process of moving the DBSData directory refers to a standard installation of DBSWIN and VistaSoft. In some cases the individual paths may differ from the actual installation.

1. Launch the Server Manager via **Start > All programs > Duerr Dental > DBSWIN > Server Manager** on the computer acting as the DBSWIN server.
2. Click on .
3. Click on .  
The database is deactivated.
4. Click on .
5. Click on .
6. Under **Local path**: enter the local path of the VistaSoftData directory (default: C:\VistaSoftData) or a subfolder you have created yourself and click **OK** to confirm.  
The local path is copied and the global path is automatically entered.
7. Click **OK** to adopt the settings.
8. Click on .  
The database is activated again.

### Adjusting paths in VistaSoft

1. Launch VistaSoft on the computer acting as the server.  
If VistaSoft has been configured for a single workstation, start the single workstation installation.
2. Click .
3. Click **Practices**.
4. Select the required practice.
5. Click **Configure**.

 The following paths apply to a default installation of DBSWIN with one practice.

6. In the **Database** area under **DBSWIN X-ray path**: enter the new path to the directory within the moved DBSData directory that contains the X-ray images (C:\DBS\DBSData\pr1\XrayImg).
7. In the **Database** area under **DBSWIN video path**: enter the new path to the directory within the moved DBSData directory that contains the video images (C:\DBS\DBSData\pr1\WidImg).
8. Restart VistaSoft.

## 83.2 Automated installation

The installation on the clients can be automated by making changes to a configuration file. The options file is located at `[Setup path]\Installer\[VistaSoft version].options`.



Remove the "#" character before the corresponding lines to activate the parameters.

| Parameters   | Possible values  | Description  |
|--|--|--|
| mode   | unattended   | Activates the unsupervised installation  |
| Unattendedmodeui                                       | none, minimal  | none = no minimal Connect interface<br>minimal = minimal Connect interface   |
| connectmode  | 0, 1   | 1 = VistaSoft Connect is installed   |
| operationmode  | client, server, local  | client = client of a multi-station installation<br>server = server installation of a multi-station installation<br>local = single workstation installation |
| hostoverride   | [IP address / Name]:3113   | Statement of server data for client installation (only for connectmode=1)  |
| regionoverride   | [Two-character ISO code]   | Statement of the country region (for specific parameters). Example: "de".  |
| databasepath   | [Local database path]  | Storage of the database path (only in connectmode=1)   |
| installer-language                                     | de, en, es, fr, it, ja, tr, ru, cs, da, el, fi, ko, nl, no, pl, pt, sv, zh_CN, zh_TW | Language of the setup  |
| InstallMobileConnect                                   | 0, 1   | Installation of MobileConnect  |
| DemoPatient  | 0, 1   | Installation of the demo database (internet connection required)   |
| RegistrationFile                                       | [Path to the Template file]  | Only if a registration template is present<br>Example: E:\VistaSoft\Registration.template  |
| installdir   | [Local installation path]  | Example: C:\Program Files\Duerr\VistaSoft  |
| datainstalldir Example: C:\ProgramData\Duerr\VistaSoft | [Local file path]  | Example: C:\ProgramData\Duerr\VistaSoft  |
| InstallAllScannerPlugins                               | 0, 1   | 0 = without VistaScan/ScanX module<br>1 = install VistaScan/ScanX module   |

| Parameters                    | Possible values | Description  |
|-------------------------------|-----------------|--|
| InstallVistaScanClassicPlugin | 0, 1, 2         | 0 = without VistaScan Classic<br>1 = install VistaScan Perio USB, VistaScan Combi USB<br>2 = install ScanX Classic, ScanX Ortho, ScanX Intraoral, ScanX Duo                                      |
| InstallCameraPlugin           | 0, 1            | 0 = without VistaCam/CamX module<br>1 = install VistaCam/CamX module   |
| InstallVistaRay7Plugin        | 0, 1            | 0 = without VistaRay7/SensorX module<br>1 = install VistaRay7/SensorX module   |
| InstallDemoPlugin             | 0, 1            | 0 = do not install any demo devices<br>1 = install demo devices  |
| InstallVistaPanoPlugin        | 0, 1, 2, 3      | 0 = without VistaPano/ProVecta S-Pan module<br>1 = install VistaPano S, VistaPano S Ceph<br>2 = install VistaPano S 2.0, VistaPano S Ceph 2.0<br>3 = install ProVecta S-Pan, ProVecta S-Pan Ceph |
| InstallTwainPlugin            | 0, 1            | Activate TWAIN support   |

### 83.3 Add fonts for annotations

Annotations in the toolbox can also be written in languages that are not display languages of the software. This can mean, however, that some characters cannot be displayed. This requires additional fonts.

The fonts must be available in the operating system (C:\Windows\fonts).

To use the fonts, they must be specified in the CustomFonts.json file.

*[Installation data directory]\WorkstationService\Framework\CustomFonts.json*

- "*PathRegular*": Standard font
- "*PathBold*": Font with bold typeface

## 84 Abbreviations used

| Abbreviation | Explanation  |
|--------------|--|
| AE           | Application Entity<br>The Application Entity is a functional component within a system that is a user and/or provider (SCU/SCP) of one or more DICOM services. Every AE uses a unique AE Title for identification. |
| BDW          | Basic Dental Workflow<br>Open standard for the exchange of information between the practice management software and the imaging software   |
| DICOM        | Digital Information and Communications in Medicine<br>Open standard governing the storage and exchange of information in medical image data management   |
| RIS          | Radiology Information System<br>Electronic data processing system for the documentation and management of medical and administrative data in the field of radiology  |
| PACS         | Picture Archiving and Communication System<br>Picture archiving and communication system built on computers and networks   |
| SCP          | Service Class Provider<br>Defines the DICOM services and their role as server  |
| SCU          | Service Class User<br>Defines the DICOM services and their role as client  |

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