

Imaging Site Survey

Version 47, May 2025



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1. Site Survey Scope and Information

Introduction

This information applies only to the following products:

- **Sidexis 4**
- **Axeos**
- **Orthophos E, S, SL / Ceph**
- **Schick 33 Sensor Systems (including PC and server specifications)**

To ensure optimal performance and a great experience with our products, it is strongly recommended to complete the site survey and follow the recommendations outlined in this document.

The online Site Survey at survey.dentsplysironasupport.com is the only accepted method for conducting the site survey for a dental practice.

The form provides immediate evaluation and automatic distribution to all involved parties.

Technical Support and Information

For remote support, software manuals, guides, videos, and tutorials, visit dentsplysironasupport.com or contact our Technical Support team at 1-800-659-5977.

2. Radiation Shielding Plan and Design Review

We strongly advise that you become familiar with state regulations outlining your responsibilities for radiation protection and safety by consulting your state department of public health, bureau of radiation protection, dental section.

A shielding design takes the known radiation emissions for a specific X-Ray unit and applies those to the existing circumstances in the dental office in question. Depending on the amount of images that will be taken in a timespan and the occupation of rooms in the proximity of the X-Ray system, additional shielding may not be required.

A typical Radiation Plan Review will cost in the range of \$300 - \$500.

Below you find a statement from "Pro Physics" about the necessity of plan reviews. Dentsply Sirona has successfully used Pro Physics in past 3D site assessments and evaluations.

A Shielding Plan Survey performed by a radiation physicist is mandatory for every 3D installation.

Shielding Designs (Plan Reviews)

Plan reviews are required in about half the states, but as a practical matter are needed in essentially every state to demonstrate compliance with occupational and general public dose limits. Every state has a rule worded exactly as, or similar to, the following (taken from NC rules):

(b) A licensee or registrant shall show compliance with the annual dose limit in Rule .1611 of this Section by:
(1) demonstrating by measurement or calculation that the total effective dose equivalent to the individual likely to receive the highest dose from the licensed or registered operation does not exceed the annual dose limit;

Many states require a plan review to be completed and approved by the agency prior to installing the equipment. However, any state inspector can request demonstration that the installation meets the applicable dose limits for the occupational and public personnel at any time. Note that the rule above states that this can be demonstrated by calculation. A plan review is a calculation that, if the facility meets the requirements in the plan review, demonstrates the dose limits will be met.

From a liability standpoint, scattered radiation levels from CBCT and general radiographic equipment can be quite high under many circumstances. A practice owner is wise to ensure that radiation levels are within limits to his/her neighbors and workers lest they be subject to potential litigation should injury from radiation be perceived by an individual or group of individuals.

Rather than guessing and under-shielding or spending too much money and effort on over-shielding, a plan review is a cost-effective way of ensuring a safe operating environment and demonstrating that occupational and public dose limits are met.

Most state agencies maintain lists of persons and companies qualified to provide plan reviews.

<https://www.landauer.com/lmp>

2 Science Rd.

Glinwood, IL 60425

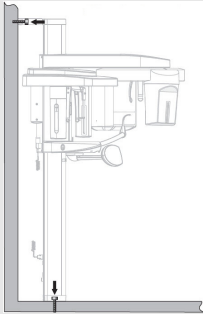
Toll Free (800) 835-3615 · Phone: (919) 465-2545 · Fax: (919) 465-2544

customerservice@landauermp.com

(Landauer is not affiliated with DentsplySirona, you may choose any other provider).

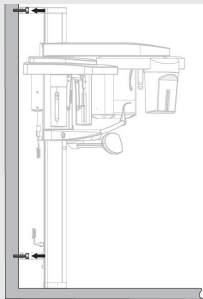
3. Mounting options

Please choose one of the following options:



Option 1: Standard

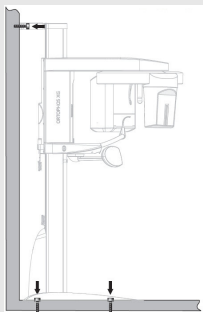
Wall bracket and 2 floor anchor bolts (provided by Dentsply Sirona). The unit will be bolted to the wall with 1 wall bracket 16 1/2" wide. The wall needs to be reinforced to hold 160 pounds on each of the two wall bolts at a height of 76 3/4" from floor, incorporated during construction of wall or use a wooden board over multiple studs. There are no specific strength requirements for the floor bolts (provided by Dentsply Sirona).



Option 2: 2 Wall Brackets and No Floor Mounts

If no floor bolts can be used, a second wall bracket is necessary and will be mounted at 15 7/8".

* Second wall bracket must be ordered from Dentsply Sirona.
ORTHOPHOS XG3D, S & SL: Part # 6331800 (standard)



Option 3: Floor Mounted Stand

If a floor mounted stand is desired, it is required to use the standard wall bracket. Part # 6331800 - This wall bracket will be mounted at 78".

*The floor stand must still be bolted to the floor using the provided bolts.

Note: If your wall is already reinforced for an existing pan, make sure that the location of the reinforcement fits the new required location at 76 3/4" for wall bracket mounting height.

Note: If using Option 3, you must still use the upper wall bracket to mount the machine safely. There is no option for installation that does not require an upper wall mount.

4. Electrical Requirements



Electrical work must be completed prior to installation day.

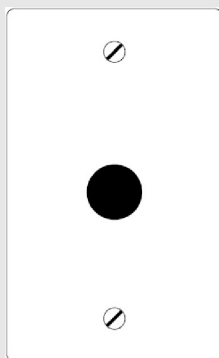
All Pan/Ceph/3D Imaging Systems require:

200V-240V ($\pm 10\%$), 20 Amp dedicated 2-phase circuit, (2 live, 1 ground wire) hardwired power supply is needed for the unit. A second protective ground wire (on unit) will have to be attached to a suitable PE connection. The safe operating range for Dentsply Sirona imaging equipment is 180VAC to 264VAC. Verify that your electrical environment is within this range.

Dentsply Sirona CANNOT recommend any type of plug or receptacle for the unit's main power. Dentsply Sirona recommends only hardwiring the machine and not using any type of plug/receptacle. Some states require a shutdown/safety system because of this.

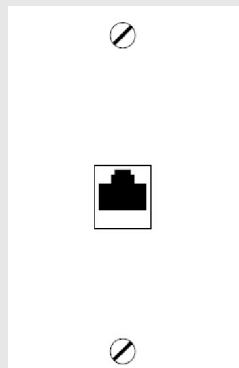
It is recommended to have the following receptacles behind the unit column before installation day.

Coax Plate
Remote Cable*



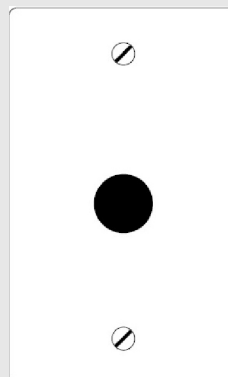
Remote Control For Device

Cat5e Plate
Network



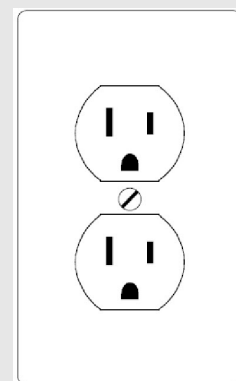
Media Converter

Coax Plate
(220 VAC)**



Device must be hard wired.

Duplex Outlet Plate
(110 VAC)



Media Converter Power Source

* The remote cable is supplied by Dentsply Sirona and is used for the wall control box. If the cable needs to be run before install day, order part #61 25 319, this cable cannot be adjusted.

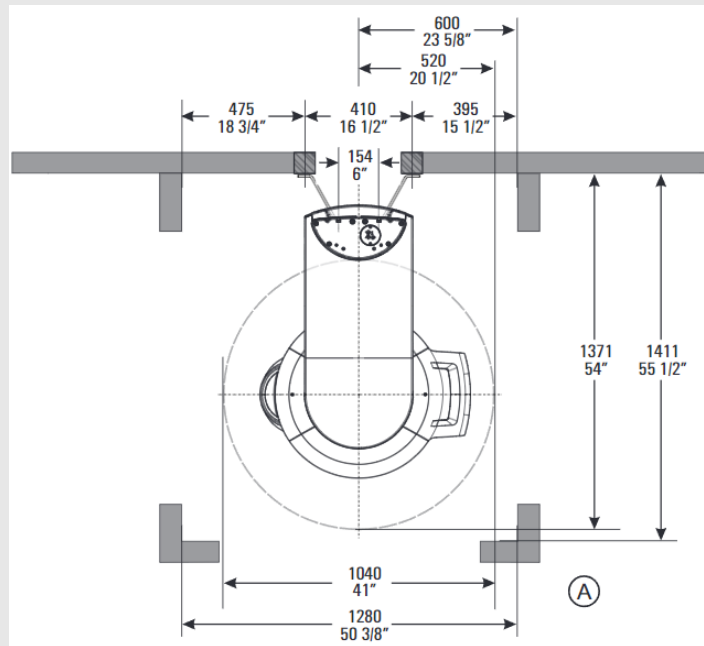
** Hard wired main connection.

5. Extraoral Unit Dimensions - Orthophos E, S, Axeos

The unit drawings and dimensions below outline the minimum space requirements for Sirona hardware. These are ABSOLUTE minimum requirements. If the space designated for Sirona equipment is smaller, installation is not possible.

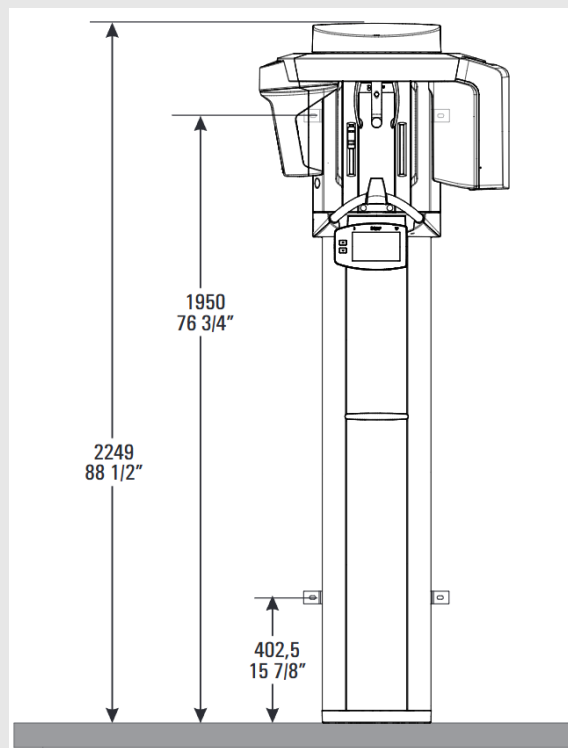
Orthophos
E, S, Axeos

Top View

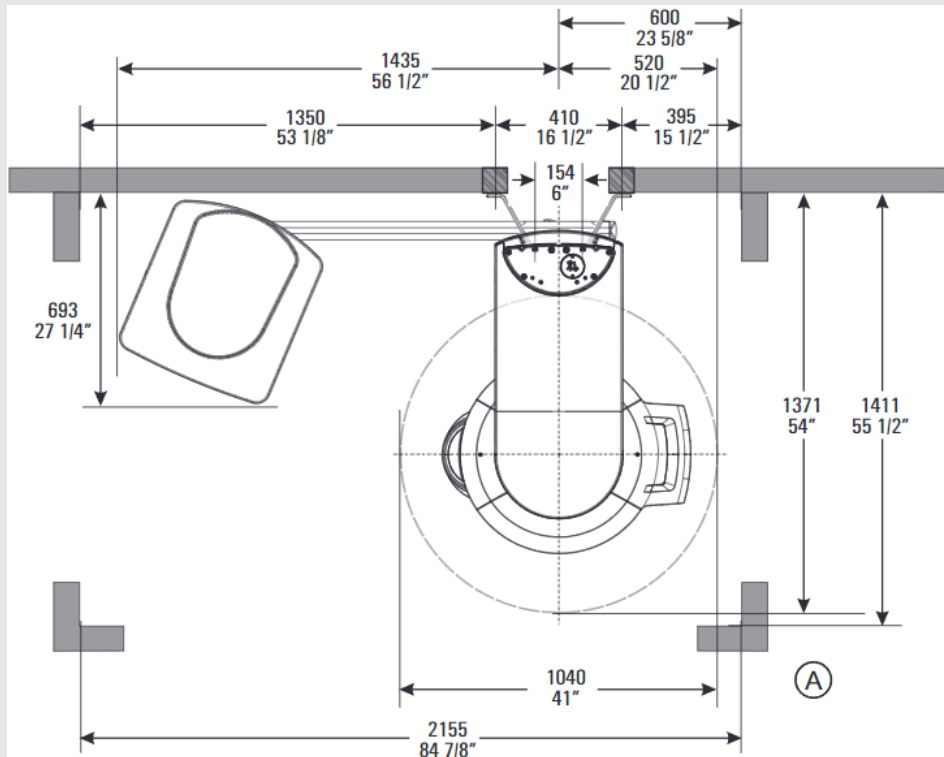


Orthophos
E, S, Axeos

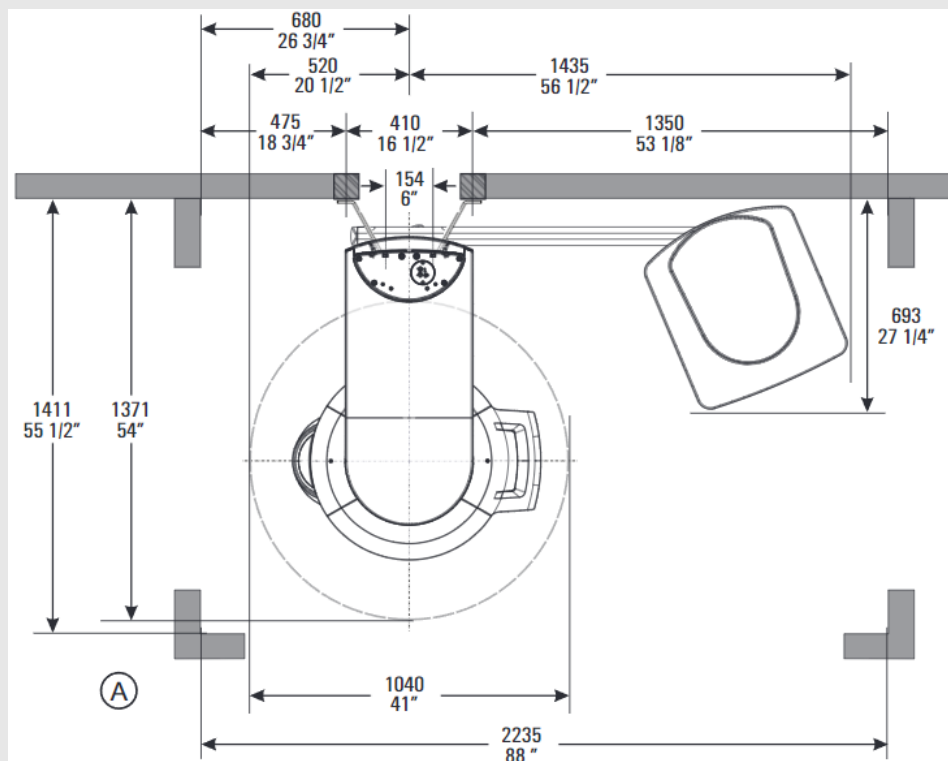
Front View



Orthophos
S, Axeos
Ceph Left
Top View



Axeos
Ceph Right
Top View



6. Networking and Ports

All network components involved must operate at a minimum speed of 1 Gbit/sec.

Wireless networks are not supported.

The Sidexis database must reside locally within the same operating environment as the extraoral device. Connecting to the database or extraoral equipment from offsite or remote offices is not supported, as network latency and environmental differences can lead to data integrity issues and performance instability.

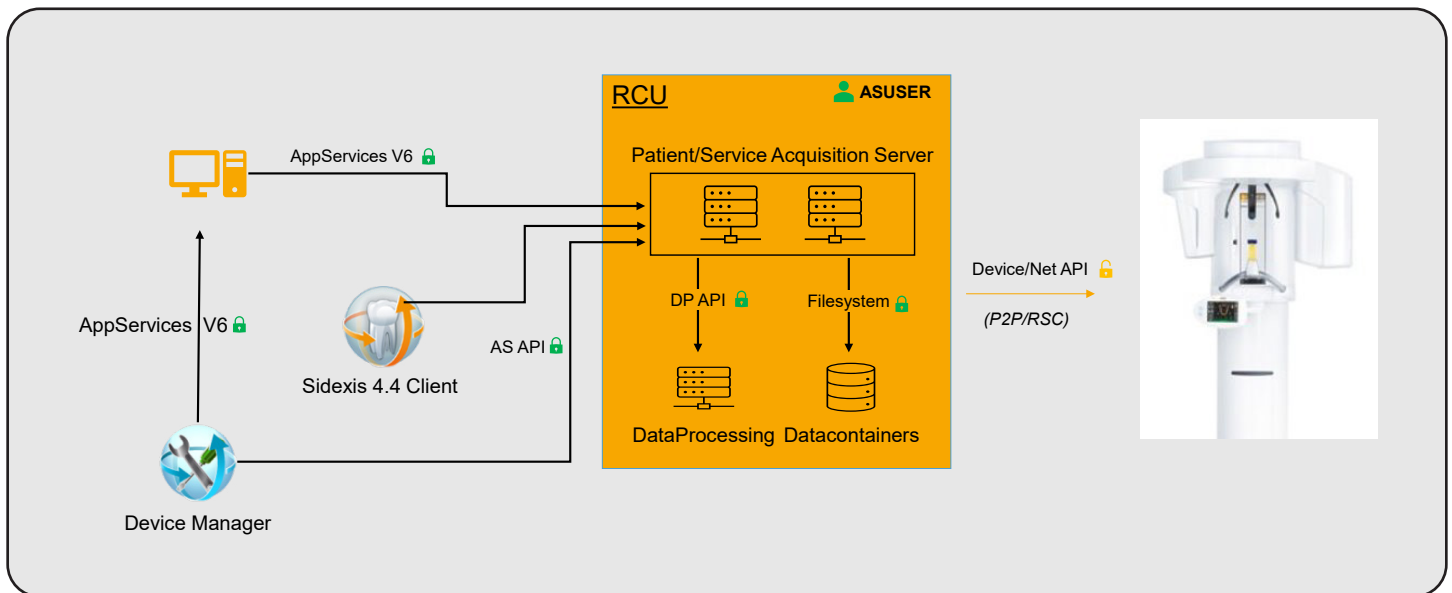
The following ports must be open for the Dentsply Sirona software and hardware to function. If some ports are closed the unit will not function.

Purpose	Port Number	Purpose	Port Number
SQL Express	1433	Orthophos S, SL, Axeos	12937
Sidexis Rest Service UDP Port	2222	Orthophos S, SL, Axeos	12938
Reconstruction Communication	8080	Acquisition (Axeos)	13835
Reconstruction Communication	8081	Acquisition (Axeos)	13837
Multicast Discovery Port / Sidexis Rest Service UDP Port	9050	Acquisition (Axeos)	13838
Sidexis TCP Port	11837	Sidexis Rest Service UDP Port	42916
XAB UDP Port	11838	Orthophos S, SL, Axeos	42927
PC UDP Port	11839	Orthophos E, S, SL, Axeos	42928
Orthophos S, SL, Axeos / TCP Status Port	12835	Orthophos E, S, SL, Axeos	42929
Orthophos S, SL, Axeos / TCP Service Port	12836	Orthophos E, S, SL, Axeos	42930
Orthophos S, SL, Axeos / TCP Main Port	12837	Orthophos E, S, SL, Axeos	42931
Orthophos S, SL, Axeos / XG Pan UDP Port	12838	Orthophos E, S, SL, Axeos	42932
Orthophos S, SL, Axeos / XG PC UDP Port	12839	Orthophos S, SL, Axeos	52837
Orthophos S, SL, Axeos	12935	Orthophos S, SL, Axeos	52838
Orthophos S, SL, Axeos	12936	Orthophos E, S, SL, Axeos	52839

The Sidexis Service location must be assigned a static IP address. It is also recommended that both the X-ray unit and the RCU use reserved static IPs outside the DHCP range to ensure reliable communication.

Disabling TLS 1.0 and 1.1 protocols may impact service communication on workstations and server environments running Windows 10, as well as Windows Server 2016, 2019, and 2022.

7. Networking and Datapath Overview



8. SQL Server Information

Sidexis 4 and SQL Server Installation Notes

Sidexis 4.4 is now shipped with SQL Server 2017 Express.

If a higher version of SQL Server is already installed, it may be necessary to manually create the database before installing Sidexis. Please contact support for assistance in this case.

It is strongly recommended to temporarily disable firewalls and antivirus software during the SQL installation process.

Sidexis 4 does not support dual database configurations. If multiple doctors are purchasing the system, each must have a completely separate installation on its own network.

Contact support for more information.

Full SQL Server Recommended for 20+ Sidexis Clients

If the number of client workstations using Sidexis exceeds 20, it is recommended to upgrade from SQL Server Express to a full version of SQL Server to ensure optimal performance and stability.

Please note that the full SQL Server license must be provided at your own expense.

To allow the automatic SQL backup task to be created, the Group Policy setting **“Do not allow storage of passwords and credentials for network authentication”** must be set to Disabled. If this policy is not configured correctly, the provisioning process will fail to complete.

9. File Storage

3D image sizes are typically between 250 and 500 MB or even up to 1.3 GB for S, SL and Axeos.

[Dentsply Sirona recommends starting with at least 2 terabytes of available storage.](#)

Note:

For optimal performance Dentsply Sirona recommends to have a storage drive additional to the OS drive. External storage devices such as e-SATA or USB3 are prohibited for PDATA storage and will not function.

Performance of Sidexis 4 is directly affected by hard drive read and write speeds for the main storage folder, PDATA. If slower drives are used, or if there are problems with the drives, Sidexis 4 performance will be adversely affected.

NAS Devices for Storage

NAS devices are an inexpensive way to extend storage but we have noticed some limitations, slowness or even no functionality with some devices. Because of the big variance in these devices, it is not possible for Dentsply Sirona to recommend any particular brand or model over the other.

Before using a NAS device, confirm that it supports the NTFS file system and Windows File Permissions (WFP). Many NAS devices use Linux-based file systems like EXT4 or BTRFS, which do not fully support Windows file permissions or access control. This can cause compatibility and installation issues. **Because of this Dentsply Sirona cannot guarantee proper operation when using these devices with Sidexis 4.**

Database Backup



It is solely the responsibility of the practice IT personnel to ensure that PDATA is adequately backed up. Dentsply Sirona cannot be held responsible for any lost

To protect your data, a reliable backup solution is mandatory. This should be in accordance to your expected storage size. Your IT person should recommend commonly used backup schemes.

We highly recommend using a RAID system to protect you from data loss due to a simple hard-disk failure.

Note: RAID is NOT a replacement for a backup system as it will not protect your data from certain hardware failures, user errors, fire, water or electrical storm damage.

10. Antivirus Exceptions

Antivirus Exceptions:

It is recommended to add antivirus exceptions for the following folders:

- C:\Program Files\Sirona
- C:\Program Files (x86)\Sirona
- C:\ProgramData\Sirona
- DataContainer Folder (Reconstruction Server/RCU)

If SICAT Suite software is in use, the Codemeter service may be disrupted by antivirus programs with 'deep scanning' enabled. This can cause the service to shut down as a self-protection measure. In such cases, be sure to exclude the following folder from antivirus scanning:

- C:\Program Files\CodeMeter

If your practice is utilizing DS Core, be sure to exclude the Sidexis Connector path located at:

- C:\Program Files\Sidexis Connector

11. DS Core Requirements

For optimal performance when using the Sidexis Connector with DS Core, we recommend a minimum internet download speed of 25 Mbps. Faster connections may further enhance stability and performance.

The Sidexis Connector communicates with the Sidexis Service and DS Core platform using the following ports and protocols:

Protocol	Port Number
HTTP TCP WebSocket	80
HTTPS TCP WebSocket	443
gRPC TCP	1230
STUN / TURN (real-time media) UDP	3478
mDNS UDP	5353

mDNS broadcasts should be allowed from LAN to WLAN.

Please ensure these ports are open and not restricted by your firewall or network policies to maintain proper functionality.

12. Reconstruction Server (RCU)

Reconstruction Server (RCU) Guidelines for Extraoral Imaging Systems

Orthophos S, SL, and Axeos systems are shipped with a dedicated Reconstruction Server (RCU). This PC processes raw X-ray data into high-quality 2D and 3D volumes suitable for diagnostic use.

While the RCU can be placed anywhere on the office network, it is typically installed in a server room or equipment closet. To ensure optimal performance, it is recommended that the RCU be used solely for reconstruction purposes, as running other applications or general tasks can impact system efficiency.

Reconstruction servers are required for the following devices:

- Axeos
- Orthophos S 2D / 3D
- Orthophos SL 2D / 3D

For detailed specifications, please refer to the 'IT Specifications' on page 16.

Note: It is not recommended to host the SQL Server or PDATA (image data) on the RCU, as the system is not designed for database or long-term data storage. Patient data should instead reside on a dedicated office server or properly configured storage solution.

If You Choose to Use the RCU for Image Capture or Additional Tasks:

While not recommended, RCU servers supplied by Dentsply Sirona can be used for image acquisition under the following provisions:

- No antivirus software or third-party firewalls should be installed on the RCU.
- Practice management software may be installed, but it may negatively affect acquisition performance.
- The RCU may be re-imaged by Dentsply Sirona during troubleshooting or diagnostic procedures.

Important Information:

A static IP address or DHCP reservation is required for the RCU to ensure stable network communication.

Reconstruction servers running Windows 11 will need the WMIC (Windows Management Instrumentation Command-line) feature enabled to ensure proper functionality of the acquisition services.

If there are restrictions on which user accounts are permitted to log on, the **ASUser** account must be added as a **Log on as a service** account on the reconstruction workstation (if applicable).

The reconstruction server architecture requires a dedicated GPU; execution within virtualized environments (e.g., VMware, Hyper-V) is not supported due to hardware acceleration dependencies.

13. Graphics Requirements

Graphics are a critical component for the Sidexis software, please read the information below carefully. Not only is a specific RAM minimum required i.e.:1GB, a relative strength rating is required in the form of a benchmark score. Passmark© is used for this score.

Minimum Requirements:

- For NVIDIA cards (**recommended**) Passmark score MUST be at least 1000.
- For ATI/AMD cards (there are known compatibility issues) Passmark score MUST be at least 4500.
- For Intel* Onboard cards, Passmark score MUST be at least 540.

*Note: Compatibility issues have been reported with certain versions of Intel drivers.

Intel integrated graphics are not supported for Sicut Suite use. The selected card must support DirectX 10 compatible or higher! DirectX 11 required for Sicut Suite. Please be aware that the Intel onboard passmark score is intended to verify compatibility, not performance.

Running the test:

Download the benchmark tool from:

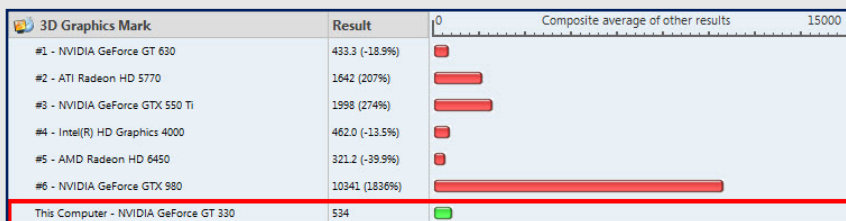
https://www.passmark.com/downloads/PerformanceTest_Windows_x86-64.exe

Double click the petst.exe and run it. Then click "Run Benchmark".

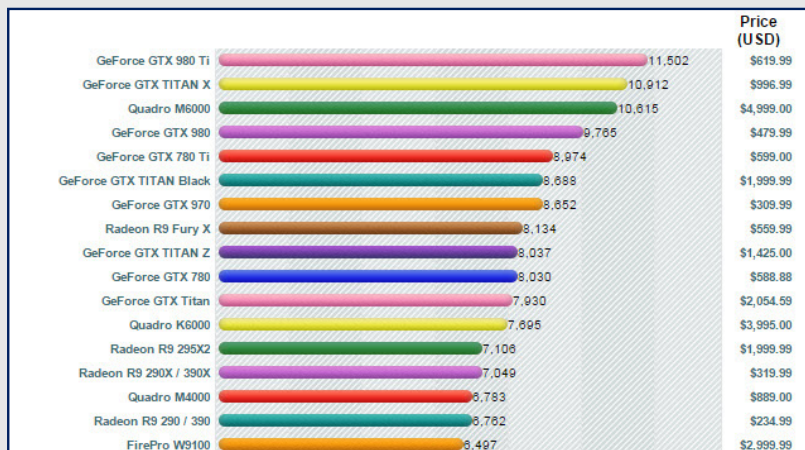
You will see many things happen on screen, just wait until it is finished. Then you will be shown the PC's scores. Keep in mind, the Passmark benchmark test will give you scores for many things, only the 3D performance score is needed.



This is the initial score given. Do not use this score.



The score needed is "3D-Graphics Mark"



The scores for known graphics cards can be found here:

<http://www Videocardbenchmark.net/>

This might spare you from testing the cards individually.

14. Schick Sensor System Requirements

Workstation and Power Requirements for Schick Sensor Systems

Schick Sensor systems and USB interfaces require stable and sufficient power to operate reliably. The USB 2.0 and 3.0 interfaces used by these systems require:

- +5V operating voltage
- Minimum 250mA supply current

Important notes:

Small form factor PCs may not provide adequate USB power to support Schick sensors, leading to performance issues or device disconnection.

Only powered USB hubs should be used to meet the necessary power requirements. Non-powered hubs are not supported and may result in unreliable operation.

Workstations must be equipped with an Intel or AMD processor. ARM-based processors are not supported and will not function with Schick Sensor software.

Compatibility with Third-Party Imaging Software

Sidexis 4.4 software with the Si-TWAIN driver is required to use Schick Sensor Systems with third-party imaging software, unless the software supports direct IOSS integration. If direct IOSS integration is not available, the Si-TWAIN driver must be used.

For the latest IOSS integration compatibility list, please refer to the support site: dsgo.to/Schick.

15. Third-Party Integration Overview

TWAIN Device Support in Sidexis 4.4

There is no guarantee that third-party imaging products using TWAIN will be fully compatible with Sidexis 4.4. Sidexis is designed to work best with Dentsply Sirona's native hardware and software integration for optimal reliability and performance.

Before transitioning to Sidexis for image capture, please contact support to check for any known issues with specific TWAIN sources.

Practice Management Integration

Sidexis includes a built-in, open-source interface that enables communication with practice management systems at no additional cost.

To integrate, contact your practice management software provider for a connection link to Sidexis. (Note: Some providers may charge a fee for integration.)

16. IT Specifications

ITEM	MINIMUM	RECOMMENDED	NOTES
Workstation / RCU Server	<ul style="list-style-type: none"> WINDOWS 10/11 Pro, Enterprise (64 bit) 	<ul style="list-style-type: none"> WINDOWS 10/11 Pro, Enterprise (64 bit) 	<ul style="list-style-type: none"> 64bit systems are required as of Sidexis 4.4, 32bit is no longer compatible.
	<ul style="list-style-type: none"> Intel Core i3 (10th Gen or newer) Intel Core i5 (8th Gen or newer) AMD Ryzen 5 (2nd Gen or newer) ≥ 2.5 GHz Quad-Core Processor 	<ul style="list-style-type: none"> Intel Core i7 (10th Gen or newer) AMD Ryzen 7 (3rd Gen or newer) ≥ 3.0 GHz 6-Core or higher 	<ul style="list-style-type: none"> For Sidexis 4, workstation processor power directly effects imaging performance.
	<ul style="list-style-type: none"> Workstation: 8GB RAM Customer Supplied RCU: 16GB RAM 	<ul style="list-style-type: none"> Workstation: 16GB+ RAM Customer supplied RCU: 16GB+ RAM 	<ul style="list-style-type: none"> RCU Server (Supplied with most systems) requires minimum of 16GB RAM. This does not account for necessary RAM for 3rd party applications.
	<ul style="list-style-type: none"> Workstation: 512 MB Graphics card (2D) 1 GB (3D) Customer Supplied RCU: 4GB Dedicated NVIDIA GPU. 	<ul style="list-style-type: none"> Workstation: 2GB+ Dedicated NVIDIA GPU. Customer Supplied RCU: 6GB+ Dedicated NVIDIA GPU. 	<ul style="list-style-type: none"> See page 14 for specifics on graphics card requirements and passmark benchmarks..
	<ul style="list-style-type: none"> Workstation: 50 GB (Free space) RCU: 1 TB (Supplied with most devices) 	<ul style="list-style-type: none"> Workstation: 500GB (Free space) RCU: 1 TB (Supplied with most devices) 	<ul style="list-style-type: none"> RCU storage is used for storing the raw image data used for reconstruction.
	<ul style="list-style-type: none"> 1Gb/s network speed 	<ul style="list-style-type: none"> 1Gb/s network speed 	<ul style="list-style-type: none"> Wireless is not supported. High speed internet is required for remote support.
		<ul style="list-style-type: none"> RCU cannot be deployed or operated in a virtualized environment. 	<ul style="list-style-type: none"> If DVDs and other exports are needed, a DVD burner is recommended on at least one workstation.
	<ul style="list-style-type: none"> 19" monitor Resolution: 1920 × 1080 (Full HD) Aspect Ratio: 16:9 Brightness: ≥ 250 cd/m² 	<ul style="list-style-type: none"> 24-27" monitor Resolution: 2560 × 1440 (QHD) or higher Aspect Ratio: 16:9 Brightness: ≥ 300 cd/m² Contrast Ratio: 1000:1 or better Color Accuracy: IPS panel 	<ul style="list-style-type: none"> A high-quality monitor is essential for accurate image analysis. At a minimum, the doctor's workstation or consult room should use a premium display and be located in a dim or darkened environment for optimal viewing conditions.
SQL server	<ul style="list-style-type: none"> Windows 10/11 Pro/Enterprise Windows Server 2016/2019/2022 8 GB RAM 1Gb/s network 	<ul style="list-style-type: none"> Windows 10/11 Pro/Enterprise Windows Server 2016/2019/2022 16 GB+ RAM 1Gb/s network 	<ul style="list-style-type: none"> See page 10 for additional details.
Storage Server (Can be same as SQL server)	<ul style="list-style-type: none"> Windows 10/11 Pro/Enterprise Windows Server 2016/2019/2022 NAS Device 1TB Free Space 1Gb/s network 	<ul style="list-style-type: none"> Windows Server 2016/2019/2022 2 TB+ Free Space 	<ul style="list-style-type: none"> Not all NAS devices are compatible, see page 11. Available space needed depends on frequency of image captures.
Database Backup	<ul style="list-style-type: none"> External USB-3 Backup (multiple) 	<ul style="list-style-type: none"> Professional tape library backup library, or other off-site cold backup. 	<ul style="list-style-type: none"> The backup system needs to accommodate the stored data volumes. Online backup is not recommended.