NewTom
Cone Beam 3D Imaging
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Minimum and recommended system requirements

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Contents

1. PURPOSE

This document provides technical information concerning hardware and software minimum and recommended requirements for workstations directly connected to the reference or additional devices, explained in detail in the chapters listed below.

2. SYSTEM REQUIREMENTS FOR NEWTOM GO (REF 708J-K-L)
2.1. REQUIREMENTS FOR 2D ACQUISITION WORKSTATIONS

Minimum requirements for the PC workstation directly connected to the X-ray acquisition device if it is dedicated to two-dimensional examinations only.

Characteristics lower than those specified could result in poor performance or impossible acquisition of X-ray examinations from this workstation.

Operating system	Windows 7 Professional 64 bit SP1 [1] Windows 8.1 Professional 64 bit [1] Windows 10 Pro 64 bit build v1607 / v1703 / v1709 / v1803 / v1809 / v1909 / v2004 / v20H2 / v21H1
Processor	Intel Core i3 family, series 4150 or next, 3.60 Ghz (or higher) [2] Intel Core i5 family, series 3330 or next, 3.00 Ghz (or higher) [2] Intel Core i7 family, series 2600 or next, 3.40 Ghz (or higher) [2] Intel Core i9 family, 3.30 Ghz (or higher) [2] Intel Xeon E3 Sandy Bridge series or next, 3.10 Ghz (or higher) [2] With at least 2 physical cores (4 recommended) for a total of at least 4 logical cores.
Hard Disk	**Capacity:** 256 GB or higher **Type:** Solid State Drive (SSD) [3] **Interface:** recommended M.2 connector on PCIe bus with NVMe interface
System memory	8GB or higher [4]
Video card	3D Video Card, discrete or integrated graphics [4]
Monitor (minimum resolution)	4:3 monitor 1280 x 1024 pixel Wide Monitor 1344 x 768 pixel
Power supply	Use a power supply suitable for the power required by the video card being used
Additional devices	2 x Network card 1Gbps (1 x Intel Pro 1000 / Gigabit CT) 1 DVD-ROM

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[1] Operating system supported up to NNT 13.X version

[2] The correct operation of the software is not guaranteed when using processors with lower technical features.

[3] With a standard HDD disk (that is, non-SSD), a satisfactory user experience of any other installed applications is not guaranteed.

[4] For previously adopted workstation models with only 4GB RAM, it is necessary to combine a discrete 3D video card (that is, not integrated with the motherboard) with its own physical memory of at least 1GB GDD3.

2.2. MINIMUM REQUIREMENTS FOR 3D ACQUISITION WORKSTATIONS (MAIN WORKSTATION)

Requirements for PC workstation directly connected to the X-ray acquisition device and intended for CBCT primary reconstruction.
Characteristics lower than those specified could result in poor performance or impossible acquisition of X-ray examinations from this workstation.

Operating system	Windows 7 Professional 64 bit SP1 [1] Windows 8.1 Professional 64 bit [1] Windows 10 Pro 64 bit build v1607 / v1703 / v1709 / v1803 / v1809 / v1909 / v2004 / v20H2 / v21H1
Processor	Intel Core i7 family, series 3770 or next, 3.40 Ghz (or higher) [2] Intel XEON family, series E5-2630 or next, 2.30 Ghz (or higher) [2] Intel XEON family, series E3-1270 or next, 3.50 Ghz (or higher) [2] Intel XEON family, series E5-1620 or next, 3.60 Ghz (or higher) [2]
Hard Disk	500 GB 10KRPM
System memory	8 GB
Video card	3D VideoCard 1 GB physical RAM [3] [4] [5]
Monitor (minimum resolution)	4:3 monitor 1280 x 1024 pixel Wide Monitor 1344 x 768 pixel
Power supply	Use a power supply suitable for the power required by the video card being used [6]
Additional devices	2 x Network card 1Gbps (1 x Intel Pro 1000 / Gigabit CT) 1 DVD-ROM

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[1] Operating system supported up to NNT 13.X version

[2] The correct operation of the software is not guaranteed when using processors with lower technical features.

[3] It is necessary to use one of the validated video cards listed in Chapter 19 to ensure the correct operation of rear projection (Primary Reconstruction).

[4] It is necessary to use one of the validated video cards listed in Chapter 19 to ensure the correct operation of MAR option.

[5] Some 3D functions may have low performance or not be supported due to a limited amount of video memory.

[6] For the exact power value, refer to Chapter 19.

2.3. SUGGESTED REQUIREMENTS FOR 3D ACQUISITION WORKSTATIONS (MAIN WORKSTATION)

Operating system	Windows 10 Pro 64 bit build v1909 / v2004 / v20H2 / v21H1
Processor	Intel Xeon W-1250 (3.3Ghz)
Hard Disk	500 GB SSD
System memory	16 GB ECC
Video card	3D VideoCard 4 GB physical RAM [1] [2] [3]
Slots	3 x PCI Express (1 x PCI Express x16 slot) 1 x USB 2.0
Monitor (minimum resolution)	4:3 monitor 1280 x 1024 pixel (or higher) Wide Monitor 1344 x 768 pixel (or higher)
Power supply	Use a power supply suitable for the power required by the video card being used [4]
Additional devices	2 Network card 1Gbps (1 card Intel Gigabit CT Desktop Adapter) 1 DVD-RW

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[1] It is necessary to use one of the validated video cards listed in Chapter 19 to ensure the correct operation of rear projection (Primary Reconstruction).

[2] It is necessary to use one of the validated video cards listed in Chapter 19 to ensure the correct operation of MAR option.

[3] Some 3D functions may have low performance or not be supported due to a limited amount of video memory.

[4] For the exact power value, refer to Chapter 19.

3. SYSTEM REQUIREMENTS FOR NEWTOM GO (REF 70BD-E-F)
3.1. REQUIREMENTS FOR 2D ACQUISITION WORKSTATIONS

Minimum requirements for the PC workstation directly connected to the X-ray acquisition device if it is dedicated to two-dimensional examinations only.

Characteristics lower than those specified could result in poor performance or impossible acquisition of X-ray examinations from this workstation.

Operating system	Windows 10 Pro 64 bit build v1809 / v1909 / v2004 / v20H2 / v21H1
Processor	Intel Core i3 family, series 9100 or next, 3.60 Ghz (or higher) [1] Intel Core i5 family, series 9500 or next, 3.00 Ghz (or higher) [1] Intel Core i7 family, series 9700 or next, 3.00 Ghz (or higher) [1] Intel Core i9 family, series 9900 or next 3.10 Ghz (or higher) [1] Intel Xeon family series E- or next, 3.40 Ghz (or higher) [1] With at least 2 physical cores (4 recommended) for a total of at least 4 logical cores.
Hard Disk	**Capacity**: 256 GB or higher **Type**: Solid State Drive (SSD) [2] **Interface**: recommended M.2 connector on PCIe bus with NVMe interface
System memory	8 GB or higher [3]
Video card	3D Video Card, discrete or integrated graphics [3]
Monitor (minimum resolution)	4:3 monitor 1280 x 1024 pixel Wide Monitor 1344 x 768 pixel
Power supply	Use a power supply suitable for the power required by the video card being used
Additional devices	2 x Network card 1Gbps (1 x Intel Pro 1000 / Gigabit CT) 1 DVD-ROM

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[1] The correct operation of the software is not guaranteed when using processors with lower technical features.

[2] With a standard HDD disk (that is, non-SSD), a satisfactory user experience of any other installed applications is not guaranteed.

[3] For previously adopted workstation models with only 4GB RAM, it is necessary to combine a discrete 3D video card (that is, not integrated with the motherboard) with its own physical memory of at least 1GB GDD3.

3.2. MINIMUM REQUIREMENTS FOR 3D ACQUISITION WORKSTATIONS (MAIN WORKSTATION)

Requirements for PC workstation directly connected to the X-ray acquisition device and intended for CBCT primary reconstruction.

Characteristics lower than those specified could result in poor performance or impossible acquisition of X-ray examinations from this workstation.

Operating system	Windows 10 Pro 64 bit build v1809 / v1909 / v2004 / v20H2 / v21H1
Processor	Intel Core i7 family, series 9700 or next, 3.00 Ghz (or higher) [1] Intel Core i9 family, series 9900 or next 3.10 Ghz (or higher) [1] Intel Xeon family series E- or next, 3.40 Ghz (or higher) [1]
Hard Disk	500 GB SSD
System memory	8 GB
Video card	3D VideoCard 1 GB physical RAM [2] [3] [4]
Monitor (minimum resolution)	4:3 monitor 1280 x 1024 pixel Wide Monitor 1344 x 768 pixel
Power supply	Use a power supply suitable for the power required by the video card being used [5]
Additional devices	2 x Network card 1Gbps (1 x Intel Pro 1000 / Gigabit CT) 1 DVD-ROM

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[1] The correct operation of the software is not guaranteed when using processors with lower technical features.

[2] It is necessary to use one of the validated video cards listed in Chapter 19 to ensure the correct operation of rear projection (Primary Reconstruction).

[3] It is necessary to use one of the validated video cards listed in Chapter 19 to ensure the correct operation of MAR option.

[4] Some 3D functions may have low performance or not be supported due to a limited amount of video memory.

[5] For the exact power value, refer to Chapter 19.

3.3. SUGGESTED REQUIREMENTS FOR 3D ACQUISITION WORKSTATIONS (MAIN WORKSTATION)

Operating system	Windows 10 Pro 64 bit build v1909 / v2004 / v20H2 / v21H1
Processor	Intel Xeon W-1250 (3.3Ghz)
Hard Disk	500 GB SSD
System memory	16 GB ECC
Video card	3D VideoCard 4 GB physical RAM [1] [2] [3]
Slots	3 x PCI Express (1 x PCI Express x16 slot) 1 x USB 2.0
Monitor (minimum resolution)	4:3 monitor 1280 x 1024 pixel (or higher) Wide Monitor 1344 x 768 pixel (or higher)
Power supply	Use a power supply suitable for the power required by the video card being used [4]
Additional devices	2 Network card 1Gbps (1 card Intel Gigabit CT Desktop Adapter) 1 DVD-RW

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[1] It is necessary to use one of the validated video cards listed in Chapter 19 to ensure the correct operation of rear projection (Primary Reconstruction).

[2] It is necessary to use one of the validated video cards listed in Chapter 19 to ensure the correct operation of MAR option.

[3] Some 3D functions may have low performance or not be supported due to a limited amount of video memory.

[4] For the exact power value, refer to Chapter 19.

4. SYSTEM REQUIREMENTS FOR NEWTOM GIANO
4.1. REQUIREMENTS FOR 2D ACQUISITION WORKSTATIONS

Requirements for the PC workstation directly connected to the X-ray acquisition device if it is dedicated to two-dimensional examinations only.
Characteristics lower than those specified could result in poor performance or impossible acquisition of X-ray examinations from this workstation.

Operating system	Windows 7 Pro 32 | 64 bit [1] Windows 8 Pro 32 | 64 bit [1] Windows 10 64bit build v1607 / v1703 / v1709 / v1803 / v1809 / v1909 / v2004 / v20H2 / v21H1
Processor	Intel Core2-Duo / AMD Athlon X2 (or higher) [2]
Hard Disk	100 GB 7200RPM
System memory	4 GB (Windows 8 32 | 64 bit –7 32 | 64 bit) 8 GB (Windows 10 64bit)
Video card	3D VideoCard 1 GB RAM
Slots	2 x PCI Express (1 x PCI Express x16 slot) 1 x USB 2.0
Monitor (minimum resolution)	4:3 monitor 1280 x 1024 pixel Wide Monitor 1344 x 768 pixel
Power supply	Use a power supply suitable for the power required by the video card being used
Additional devices	1 Network card 100Mbps 1 DVD-RW

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[1] Operating system supported up to NNT 13.X version

[2] The correct operation of the software is not guaranteed when using processors with lower technical features.

4.2. MINIMUM REQUIREMENTS FOR 3D ACQUISITION WORKSTATIONS (MAIN WORKSTATION)

Requirements for PC workstation directly connected to the X-ray acquisition device and intended for CBCT primary reconstruction.

Characteristics lower than those specified could result in poor performance or impossible acquisition of X-ray examinations from this workstation.

Operating system	Windows 7 Professional 32 | 64 bit SP1 [1] Windows 10 Pro 64 bit build v1607 / v1703 / v1709 / v1803 / v1809 / v1909 / v2004 / v20H2 / v21H1
Processor	Intel Core i7 family, series 3770 or next, 3.40 Ghz (or higher) [2] Intel XEON family, series E5-2630 or next, 2.30 Ghz (or higher) [2] Intel XEON family, series E3-1270 or next, 3.50 Ghz (or higher) [2] Intel XEON family, series E5-1620 or next, 3.60 Ghz (or higher) [2]
Hard Disk	500 GB 10KRPM
System memory	8 GB
Video card	3D VideoCard 1 GB physical RAM [3] [4] [5]
Monitor (minimum resolution)	4:3 monitor 1280 x 1024 pixel Wide Monitor 1344 x 768 pixel
Power supply	Use a power supply suitable for the power required by the video card being used [6]
Additional devices	2 x Network card 1Gbps (1 x Intel Pro 1000 / Gigabit CT) 1 DVD-ROM

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[1] Operating system supported up to NNT 13.X version

[2] The correct operation of the software is not guaranteed when using processors with lower technical features.

[3] It is necessary to use one of the validated video cards listed in Chapter 19 to ensure the correct operation of rear projection (Primary Reconstruction).

[4] It is necessary to use one of the validated video cards listed in Chapter 19 to ensure the correct operation of MAR option.

[5] Some 3D functions may have low performance or not be supported due to a limited amount of video memory.

[6] For the exact power value, refer to Chapter 19.

4.3. SUGGESTED REQUIREMENTS FOR 3D ACQUISITION WORKSTATIONS (MAIN WORKSTATION)

Operating system	Windows 10 Pro 64 bit build v1909 / v2004 / v20H2 / v21H1
Processor	Intel Xeon W-1250 (3.3Ghz)
Hard Disk	500 GB SSD
System memory	16 GB ECC
Video card	3D VideoCard 4 GB physical RAM [1] [2] [3]
Slots	3 x PCI Express (1 x PCI Express x16 slot) 1 x USB 2.0
Monitor (minimum resolution)	4:3 monitor 1280 x 1024 pixel (or higher) Wide Monitor 1344 x 768 pixel (or higher)
Power supply	Use a power supply suitable for the power required by the video card being used [4]
Additional devices	2 Network card 1Gbps (1 card Intel Gigabit CT Desktop Adapter) 1 DVD-RW

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[1] It is necessary to use one of the validated video cards listed in Chapter 19 to ensure the correct operation of rear projection (Primary Reconstruction).

[2] It is necessary to use one of the validated video cards listed in Chapter 19 to ensure the correct operation of MAR option.

[3] Some 3D functions may have low performance or not be supported due to a limited amount of video memory.

[4] For the exact power value, refer to Chapter 19.

5. SYSTEM REQUIREMENTS FOR NEWTOM GIANO HR
5.1. REQUIREMENTS FOR 2D ACQUISITION WORKSTATIONS

Requirements for the PC workstation directly connected to the X-ray acquisition device if it is dedicated to two-dimensional examinations only.
Characteristics lower than those specified could result in poor performance or impossible acquisition of X-ray examinations from this workstation.

Operating system	Windows 10 Pro 64 bit build v1809 / v1909 / v2004 / v20H2 / v21H1
Processor	Intel Core i3 family, series 9100 or next, 3.60 Ghz (or higher) [1] Intel Core i5 family, series 9500 or next, 3.00 Ghz (or higher) [1] Intel Core i7 family, series 9700 or next, 3.00 Ghz (or higher) [1] Intel Core i9 family, series 9900 or next 3.10 Ghz (or higher) [1] Intel Xeon family series E- or next, 3.40 Ghz (or higher) [1] With at least 2 physical cores (4 recommended) for a total of at least 4 logical cores.
Hard Disk	**Capacity**: 256 GB or higher **Type**: Solid State Drive (SSD) [2] **Interface**: recommended M.2 connector on PCIe bus with NVMe interface
System memory	8GB or higher [3]
Video card	3D Video Card, discrete or integrated graphics [3]
Monitor (minimum resolution)	4:3 monitor 1280 x 1024 pixel Wide Monitor 1344 x 768 pixel
Power supply	Use a power supply suitable for the power required by the video card being used
Additional devices	2 x Network card 1Gbps (1 x Intel Pro 1000 / Gigabit CT) 1 DVD-ROM

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[1] The correct operation of the software is not guaranteed when using processors with lower technical features.

[2] With a standard HDD disk (that is, non-SSD), a satisfactory user experience of any other installed applications is not guaranteed.

[3] For previously adopted workstation models with only 4GB RAM, it is necessary to combine a discrete 3D video card (that is, not integrated with the motherboard) with its own physical memory of at least 1GB GDD3.

5.2. MINIMUM REQUIREMENTS FOR 3D ACQUISITION WORKSTATIONS (MAIN WORKSTATION)

Requirements for PC workstation directly connected to the X-ray acquisition device and intended for CBCT primary reconstruction.
Characteristics lower than those specified could result in poor performance or impossible acquisition of X-ray examinations from this workstation.

Operating system	Windows 10 Pro 64 bit build v1809 / v1909 / v2004 / v20H2 / v21H1
Processor	Intel Core i7 family, series 9700 or next, 3.00 Ghz (or higher) [1] Intel Core i9 family, series 9900 or next 3.10 Ghz (or higher) [1] Intel Xeon family series E- or next, 3.40 Ghz (or higher) [1]
Hard Disk	500 GB SSD
System memory	8 GB
Video card	3D VideoCard 1 GB physical RAM [2] [3] [4]
Monitor (minimum resolution)	4:3 monitor 1280 x 1024 pixel Wide Monitor 1344 x 768 pixel
Power supply	Use a power supply suitable for the power required by the video card being used [5]
Additional devices	2 x Network card 1Gbps (1 x Intel Pro 1000 / Gigabit CT) 1 DVD-ROM

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[1] The correct operation of the software is not guaranteed when using processors with lower technical features.

[2] It is necessary to use one of the validated video cards listed in Chapter 19 to ensure the correct operation of rear projection (Primary Reconstruction).

[3] It is necessary to use one of the validated video cards listed in Chapter 19 to ensure the correct operation of MAR option.

[4] Some 3D functions may have low performance or not be supported due to a limited amount of video memory

[5] For the exact power value, refer to Chapter 19.

5.3. SUGGESTED REQUIREMENTS FOR 3D ACQUISITION WORKSTATIONS (MAIN WORKSTATION)

Operating system	Windows 10 Pro 64 bit build v1909 / v2004 / v20H2 / v21H1
Processor	Intel Xeon W-1250 (3.3Ghz)
Hard Disk	500 GB SSD
System memory	16 GB ECC
Video card	3D VideoCard 4 GB physical RAM [1] [2] [3]
Slots	3 x PCI Express (1 x PCI Express x16 slot) 1 x USB 2.0
Monitor (minimum resolution)	4:3 monitor 1280 x 1024 pixel (or higher) Wide Monitor 1344 x 768 pixel (or higher)
Power supply	Use a power supply suitable for the power required by the video card being used [4]
Additional devices	2 Network card 1Gbps (1 card Intel Gigabit CT Desktop Adapter) 1 DVD-RW

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[1] It is necessary to use one of the validated video cards listed in Chapter 19 to ensure the correct operation of rear projection (Primary Reconstruction).

[2] It is necessary to use one of the validated video cards listed in Chapter 19 to ensure the correct operation of MAR option.

[3] Some 3D functions may have low performance or not be supported due to a limited amount of video memory.

[4] For the exact power value, refer to Chapter 19.

6. SYSTEM REQUIREMENTS FOR NEWTOM VGI EVO / 5G XL / 5G XL VET
6.1. MINIMUM REQUIREMENTS FOR 3D ACQUISITION WORKSTATIONS (MAIN WORKSTATION)

Minimum requirements for PC workstation directly connected to the X-ray acquisition device and intended for CBCT primary reconstruction.

Characteristics lower than those specified could result in poor performance or impossible acquisition of X-ray examinations from this workstation.

Operating system	Windows 7 Professional 64 bit SP1 [1] Windows 8.1 Professional 64 bit Update 3 [1] Windows 10 Pro 64 bit build v1607 / v1703 / v1709 / v1803 / v1809 / v1909 / v2004 / v20H2 / v21H1
Processor	Intel Xeon E3-1270 (3.5 Ghz) [2]
Hard Disk	500 GB 10KRPM
System memory	8 GB ECC
Video card	3D VideoCard 1 GB physical RAM [3] [4] [5]
Slots	3 x PCI Express (1 x PCI Express x16 slot) 1 x USB 2.0
Monitor (minimum resolution)	4:3 monitor 1280 x 1024 pixel Wide Monitor 1344 x 768 pixel
Power supply	Use a power supply suitable for the power required by the video card being used [6]
Additional devices	2 Network card 1Gbps (1 card Intel Gigabit CT Desktop Adapter) 1 DVD-ROM

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[1] Operating system supported up to NNT 13.X version

[2] The correct operation of the software is not guaranteed when using processors with lower technical features.

[3] It is necessary to use one of the validated video cards listed in Chapter 19 to ensure the correct operation of rear projection (Primary Reconstruction).

[4] It is necessary to use one of the validated video cards listed in Chapter 19 to ensure the correct operation of MAR option.

[5] Some 3D functions may have low performance or not be supported due to a limited amount of video memory.

[6] For the exact power value, refer to Chapter 19.

6.2. SUGGESTED REQUIREMENTS FOR 3D ACQUISITION WORKSTATIONS (MAIN WORKSTATION)

Suggested requirements for PC workstation directly connected to the X-ray acquisition device and intended for CBCT primary reconstruction.
Characteristics lower than those specified could result in poor performance or impossible acquisition of X-ray examinations from this workstation.

Operating system	Windows 10 Pro 64 bit build v1909 / v2004 / v20H2 / v21H1
Processor	Intel Xeon W-1250 (3.3Ghz)
Hard Disk	500 GB SSD
System memory	16 GB ECC
Video card	3D VideoCard 4 GB physical RAM [1] [2] [3]
Slots	3 x PCI Express (1 x PCI Express x16 slot) 1 x USB 2.0
Monitor (minimum resolution)	4:3 monitor 1280 x 1024 pixel (or higher) Wide Monitor 1344 x 768 pixel (or higher)
Power supply	Use a power supply suitable for the power required by the video card being used [4]
Additional devices	2 Network card 1Gbps (1 card Intel Gigabit CT Desktop Adapter) 1 DVD-RW

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[1] It is necessary to use one of the validated video cards listed in Chapter 19 to ensure the correct operation of rear projection (Primary Reconstruction).

[2] It is necessary to use one of the validated video cards listed in Chapter 19 to ensure the correct operation of MAR option.

[3] Some 3D functions may have low performance or not be supported due to a limited amount of video memory.

[4] For the exact power value, refer to Chapter 19.

7. SYSTEM REQUIREMENTS FOR NEWTOM VGI / 5G / 5G VET
7.1. MINIMUM REQUIREMENTS FOR 3D ACQUISITION WORKSTATIONS (MAIN WORKSTATION)

Minimum requirements for PC workstation directly connected to the X-ray acquisition device and intended for CBCT primary reconstruction.
Characteristics lower than those specified could result in poor performance or impossible acquisition of X-ray examinations from this workstation.

Operating system	Windows 7 Professional 32 / 64 bit SP1 [1] Windows 8.1 Professional 32 / 64 bit Update 3 [1] Windows 10 Pro 64 bit build v1607 / v1703 / v1709 / v1803 / v1809 / v1909 / v2004 / v20H2 / v21H1
Processor	2 x Intel Xeon series E5530 (2.40 Ghz) [2] or 1 x Intel Xeon E3-1270 v3 (3.5 Ghz) [2]
Hard Disk	160 GB 10KRPM
System memory	4 GB ECC (32 bit O.S.) 8 GB ECC (64 bit O.S.)
Video card	3D VideoCard 1 GB physical RAM [3] [4] [5]
Slots	2 x PCI + 1 x PCI Express x16 slot or 3 x PCI Express (1 x PCI Express x16 slot) 1 x USB 2.0
Monitor (minimum resolution)	4:3 monitor 1280 x 1024 pixel Wide Monitor 1344 x 768 pixel
Power supply	Use a power supply suitable for the power required by the video card being used [6]
Additional devices	2 Network card 1Gbps (1 card Intel Gigabit CT Desktop Adapter) 1 DVD-ROM

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[1] Operating system supported up to NNT 13.X version.

[2] The correct operation of the software is not guaranteed when using processors with lower technical features.

[3] It is necessary to use one of the validated video cards listed in Chapter 19 to ensure the correct operation of rear projection (Primary Reconstruction).

[4] It is necessary to use one of the validated video cards listed in Chapter 19 to ensure the correct operation of MAR option.

[5] Some 3D functions may have low performance or not be supported due to a limited amount of video memory.

[6] For the exact power value, refer to Chapter 19.

7.2. SUGGESTED REQUIREMENTS FOR 3D ACQUISITION WORKSTATIONS (MAIN WORKSTATION)

Suggested requirements for PC workstation directly connected to the X-ray acquisition device and intended for CBCT primary reconstruction.

Characteristics lower than those specified could result in poor performance or impossible acquisition of X-ray examinations from this workstation.

Operating system	Windows 10 Pro 64 bit build v1909 / v2004 / v20H2 / v21H1
Processor	Intel Xeon W-1250 (3.3Ghz)
Hard Disk	500 GB SSD
System memory	16 GB ECC
Video card	3D VideoCard 4 GB physical RAM [1] [2] [3]
Slots	3 x PCI Express (1 x PCI Express x16 slot) 1 x USB 2.0
Monitor (minimum resolution)	4:3 monitor 1280 x 1024 pixel (or higher) Wide Monitor 1344 x 768 pixel (or higher)
Power supply	Use a power supply suitable for the power required by the video card being used [4]
Additional devices	2 Network card 1Gbps (1 card Intel Gigabit CT Desktop Adapter) 1 DVD-RW

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[1] It is necessary to use one of the validated video cards listed in Chapter 19 to ensure the correct operation of rear projection (Primary Reconstruction).

[2] It is necessary to use one of the validated video cards listed in Chapter 19 to ensure the correct operation of MAR option.

[3] Some 3D functions may have low performance or not be supported due to a limited amount of video memory.

[4] For the exact power value, refer to Chapter 19.

8. SYSTEM REQUIREMENTS FOR NEWTOM 7G
8.1. MINIMUM REQUIREMENTS FOR 3D ACQUISITION WORKSTATIONS (MAIN WORKSTATION)

Minimum requirements for PC workstation directly connected to the X-ray acquisition device and intended for CBCT primary reconstruction.
Characteristics lower than those specified could result in poor performance or impossible acquisition of X-ray examinations from this workstation.

Operating system	Windows 10 Pro 64 bit build v1909 / v2004 / v20H2 / v21H1
Processor	Intel Xeon W-1250 (3.3Ghz) [1]
Hard Disk	500 GB SSD
System memory	16 GB ECC
Video card	3D VideoCard 8 GB physical RAM [2] [3]
Slots	3 x PCI Express (1 x PCI Express x16 slot) 1 x USB 2.0
Monitor (minimum resolution)	4:3 monitor 1280 x 1024 pixel (or higher) Wide Monitor 1344 x 768 pixel (or higher)
Power supply	Use a power supply suitable for the power required by the video card being used [4]
Additional devices	2 Network card 1Gbps (2 card Intel I210-T1 Desktop Adapter) 1 DVD-ROM

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[1] The correct operation of the software is not guaranteed when using processors with lower technical features

[2] It is necessary to use one of the validated video cards listed in Chapter 19 to ensure the correct operation of rear projection (Primary Reconstruction).

[3] It is necessary to use one of the validated video cards listed in Chapter 19 to ensure the correct operation of MAR option.

[4] For the exact power value, refer to Chapter 19.

8.2. SUGGESTED REQUIREMENTS FOR 3D ACQUISITION WORKSTATIONS (MAIN WORKSTATION)

Suggested requirements for PC workstation directly connected to the X-ray acquisition device and intended for CBCT primary reconstruction.

Characteristics lower than those specified could result in poor performance or impossible acquisition of X-ray examinations from this workstation.

Operating system	Windows 10 Pro 64 bit build v1909 / v2004 / v20H2 / v21H1
Processor	Intel Xeon W-1250 (3.3Ghz)
Hard Disk	500 GB SSD
System memory	16 GB ECC
Video card	3D VideoCard 8 GB physical RAM [1] [2]
Slots	3 x PCI Express (1 x PCI Express x16 slot) 1 x USB 2.0
Monitor (minimum resolution)	4:3 monitor 1280 x 1024 pixel (or higher) Wide Monitor 1344 x 768 pixel (or higher)
Power supply	Use a power supply suitable for the power required by the video card being used [3]
Additional devices	2 Network card 1Gbps (2 card Intel I210-T1 Desktop Adapter) 1 DVD-RW

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[1] It is necessary to use one of the validated video cards listed in Chapter 19 to ensure the correct operation of rear projection (Primary Reconstruction).

[2] It is necessary to use one of the validated video cards listed in Chapter 19 to ensure the correct operation of MAR option.

[3] For the exact power value, refer to Chapter 19.

9. SYSTEM REQUIREMENTS FOR 2D SECONDARY STATIONS (NNT STATION / NNT VIEWER)

The tables below indicate the minimum requirements for the workstations <u>not directly connected to the X-ray acquisition device</u>, and where the program will be installed or the corresponding Viewer version that will be used.

9.1. MINIMUM REQUIREMENTS FOR 2D SECONDARY STATIONS

Operating system	Windows 7 Professional 32 / 64 bit SP1 [1] Windows 8.1 Professional 32 / 64 bit Update 3 [1] Windows 10 Pro 64 bit build v1607 / v1703 / v1709 / v1803 / v1809 / v1909 / v2004 / v20H2 / v21H1
Processor	Intel Core i3 family, series 4150 or next, 3.60 Ghz (or higher) [2] Intel Core i5 family, series 3330 or next, 3.00 Ghz (or higher) [2] Intel Core i7 family, series 2600 or next, 3.40 Ghz (or higher) [2] Intel Core i9 family, 3.30 Ghz (or higher) [2] Intel Xeon E3 Sandy Bridge series or next, 3.10 Ghz (or higher) [2] (4 or more logic cores are recommended if the workstation is used also for any purpose other than using the software)
Hard Disk	100 GB 7200RPM
System memory	4 GB (8 GB if the workstation is used also for any purpose other than using the software)
Video card	3D VideoCard 1 GB RAM DirectX 11 support
Monitor (minimum resolution)	4:3 monitor 1280 x 1024 pixel Wide Monitor 1344 x 768 pixel
Power supply	Use a power supply suitable for the power required by the video card being used
Additional devices	1 Network card 1Gbps 1 DVD-ROM

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[1] Operating system supported up to NNT 13.X version.

[2] The correct operation of the software is not guaranteed when using processors with lower technical features.

9.2. SUGGESTED REQUIREMENTS FOR 2D SECONDARY STATIONS

Operating system	Windows 10 Pro 64 bit build v1909 / v2004 / v20H2 / v21H1
Processor	Intel Xeon W-1250 (3.3Ghz)
Hard Disk	500 GB SSD
System memory	16 GB ECC
Video card	3D VideoCard 4 GB physical RAM
Slots	3 x PCI Express (1 x PCI Express x16 slot) 1 x USB 2.0
Monitor (minimum resolution)	4:3 monitor 1280 x 1024 pixel (or higher) Wide Monitor 1344 x 768 pixel (or higher)
Power supply	Use a power supply suitable for the power required by the video card being used
Additional devices	1 Network card 1 Gbps 1 DVD-RW

10. SYSTEM REQUIREMENTS FOR 3D SECONDARY STATIONS (NNT STATION/NNT VIEWER)

The tables below indicate the minimum requirements for the workstations not directly connected to the CBCT acquisition device, and where the program will be installed or the corresponding Viewer version that will be used.

10.1. MINIMUM REQUIREMENTS FOR 3D SECONDARY STATIONS

Operating system	Windows 7 Professional 32 / 64 bit SP1 [1] Windows 8.1 Professional 32 / 64 bit Update 3 [1] Windows 10 Pro 64 bit build v1607 / v1703 / v1709 / v1803 / v1809 / v1909 / v2004 / v20H2 / v21H1
Processor	Intel Core i7 series 2600 3.40 Ghz [2] / Intel Xeon series E5530 2.40 Ghz [2]
Hard Disk	100 Gb 7200RPM
System memory	4 GB (32-bit operating systems) 8 GB (64-bit operating systems)
Video card	3D VideoCard 1 GB physical RAM [3] [4] [5]
Monitor (minimum resolution)	4:3 monitor 1280 x 1024 pixel Wide Monitor 1344 x 768 pixel
Power supply	Use a power supply suitable for the power required by the video card being used [6]
Additional devices	1 Network card 1Gbps 1 DVD-ROM

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[1] Operating system supported up to NNT 13.X version

[2] The correct operation of the software is not guaranteed when using processors with lower technical features.

[3] It is necessary to use one of the validated video cards listed in Chapter 19 to ensure the correct operation of rear projection (Primary Reconstruction).

[4] It is necessary to use one of the validated video cards listed in Chapter 19 to ensure the correct operation of MAR option.

[5] Some 3D functions may have low performance or not be supported due to a limited amount of video memory.

[6] For the exact power value, refer to Chapter 19.

10.2.SUGGESTED REQUIREMENTS FOR 3D SECONDARY STATIONS

Operating system	Windows 10 Pro 64 bit build v1909 / v2004 / v20H2 / v21H1
Processor	Intel Xeon W-1250 (3.3Ghz)
Hard Disk	500 GB SSD
System memory	16 GB ECC
Video card	3D VideoCard 4 GB physical RAM [1] [2]
Slots	3 x PCI Express (1 x PCI Express x16 slot) 1 x USB 2.0
Monitor (minimum resolution)	4:3 monitor 1280 x 1024 pixel (or higher) Wide Monitor 1344 x 768 pixel (or higher)
Power supply	Use a power supply suitable for the power required by the video card being used [3]
Additional devices	1 Network card 1Gbps 1 DVD-RW

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[1] It is necessary to use one of the validated video cards listed in Chapter 19 to ensure the correct operation of rear projection (Primary Reconstruction).

[2] It is necessary to use one of the validated video cards listed in Chapter 19 to ensure the correct operation of MAR option.

[3] For the exact power value, refer to Chapter 19.

11. SYSTEM REQUIREMENTS FOR INTRAORAL DEVICES

The tables below indicate the requirements for the workstations connected to the intraoral devices.

11.1.SYSTEM REQUIREMENTS FOR X-PSP SENSOR

Operating system	Windows 7 Professional 32 / 64 bit [1] Windows 8 Professional 32 / 64 bit [1] Windows 8.1 Professional 32 / 64 bit [1] Windows 10 Pro 64 bit build v1607 / v1703 / v1709 / v1803 / v1809 / v1909 / v2004 / v20H2 / v21H1
Processor	Intel Core i3 [2] or next
Hard Disk	100 Gb 7200 RPM
System memory	4 GB
Video card	3D VideoCard 1 GB physical RAM (OpenCL v1.2 or higher support)
Monitor **(minimum resolution)**	4:3 monitor 1280 x 1024 pixel Wide Monitor 1344 x 768 pixel
Power supply	Use a power supply suitable for the power required by the video card being used
Additional devices	1 Network card 1Gbps 1 DVD-ROM USB®2.0® HiSpeed® port [3]

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[1] Operating system supported up to NNT 13.X version

[2] The correct operation of the software is not guaranteed when using processors with lower technical features.

[3] USB® 1.1 port not recommended.

12. SYSTEM REQUIREMENTS FOR MAC OS STATIONS

The tables below indicate the requirements for the Apple™ stations based on Mac™ OS operating system.

The use of the NNT software on these workstations is only permitted by installing a Windows operating system using the Virtual Machine (through Parallels Desktop).

12.1. PREREQUISITES

NNT Software Version	13.x
Mac ™ OS	Big Sur (11.3.1)
Parallels Desktop ™ for Mac	16.5.0
Microsoft Windows ™ OS	Windows 10 Professional – build v20H2 / v21H1 (64 bit)

12.2. NOTES ABOUT NOT SUPPORTED FEATURES

- **Workstation:** any use, connection and acquisition procedure with 2D or 3D devices is not supported
- **MAR (Metal Artifacts Reduction):** not supported
- **3D FM engine – level 4:** graphic engine not supported
- **iCapture:** not supported
- **GPU Primary Reconstruction:** non supported (only safe CPU mode available)
- **BridgeNNT:** works only with applications installed in the virtual machine
- **Fast report creation:** it is not possible to use the shortcut CTRL+SHIFT button to insert a single image, it is necessary to use the application's specific button

12.3. MINIMUM REQUIREMENTS FOR MAC OS STATIONS

Processor	Intel core i7 family series 4771 (4th generation) 3.5Ghz
System memory	8 GB
Video card	3D VideoCard (no APU, no integrated), 1 GB physical RAM
Monitor (minimum resolution)	4:3 monitor 1280 x 1024 pixel Wide Monitor 1344 x 768 pixel

12.4.SUGGESTED REQUIREMENTS FOR MAC OS STATIONS

Processor	Intel core i7 family series 7700K (7th generation) 4.2Ghz (or higher)
Hard Disk	500 GB SSD
System memory	16 GB
Video card	3D VideoCard (no APU, no integrated), 4 GB physical RAM
Monitor (minimum resolution)	4:3 monitor 1280 x 1024 pixel (or higher) Wide Monitor 1344 x 768 pixel (or higher)
Additional devices	1 DVD-RW

13. SYSTEM REQUIREMENTS FOR NIP STATIONS

The tables below indicate the requirements for the stations the <u>NIP software will be installed</u>.

13.1.MINIMUM REQUIREMENTS FOR NIP STATIONS

Operating system	Windows 7 Professional 64 bit [1] Windows 10 Pro 64
Processor	Intel Core i5 family, series 3330 or next, 3.00 Ghz (or higher) [2] Intel Core i7 family, series 2600 or next, 3.40 Ghz (or higher) [2]
Hard Disk	500 GB
System memory	3 GB
Video card	3D VideoCard 1 GB physical RAM
Monitor (minimum resolution)	4:3 monitor 1280 x 1024 pixel Wide Monitor 1344 x 768 pixel
Power supply	Use a power supply suitable for the power required by the video card being used

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[1] Operating system supported up to NNT 13.X version

[2] The correct operation of the software is not guaranteed when using processors with lower technical features.

13.2.SUGGESTED REQUIREMENTS FOR NIP STATIONS

Operating system	Windows 10 Pro 64 bit build v1909 / v2004 / v20H2 / v21H1
Processor	Intel Xeon W-1250 (3.3Ghz)
Hard Disk	500 GB SSD
System memory	16 GB ECC
Video card	3D VideoCard 4 GB physical RAM
Slots	1 x PCI Express (1 x PCI Express x16 slot) 1 x USB 2.0 1 x USB 3.0
Monitor (minimum resolution)	4:3 monitor 1280 x 1024 pixel (or higher) Wide Monitor 1344 x 768 pixel (or higher)
Power supply	Use a power supply suitable for the power required by the video card being used

14. SYSTEM REQUIREMENTS FOR REALGUIDE STATIONS

The tables below indicate the requirements for the stations the RealGUIDE software will be installed.

14.1.MINIMUM REQUIREMENTS FOR REALGUIDE STATIONS

Operating system	Windows 7 Professional 32 / 64 bit [1] Windows 8.1 Professional 32 / 64 bit [1] Windows 10 Pro 64
Processor	Intel Core i5 family, series 3330 or next, 3.00 Ghz (or higher) [2] Intel Core i7 family, series 2600 or next, 3.40 Ghz (or higher) [2]
Hard Disk	500 GB
System memory	4 GB
Video card	3D VideoCard 1 GB physical RAM [3] [4] [5]
Slots	1 x PCI Express (1 x PCI Express x16 slot) 1 x USB 2.0 1 x USB 3.0
Monitor (minimum resolution)	4:3 monitor 1280 x 1024 pixel (or higher) Wide Monitor 1344 x 768 pixel (or higher)
Power supply	Use a power supply suitable for the power required by the video card being used

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[1] Operating system supported up to NNT 13.X version

[2] The correct operation of the software is not guaranteed when using processors with lower technical features.

[3] "RealBODY" feature is only available with use of NVidia video cards.

[4] It is necessary to use one of the validated video cards listed in Chapter 19 to ensure the correct operation of rear projection (Primary Reconstruction) with NNT software if the program is installed in the same station.

[5] It is necessary to use one of the validated video cards listed in Chapter 19 to ensure the correct operation of MAR option with NNT software if the program is installed in the same station.

14.2. SUGGESTED REQUIREMENTS FOR REALGUIDE STATIONS

Operating system	Windows 10 Pro 64 bit build v1909 / v2004 / v20H2 / v21H1
Processor	Intel Xeon W-1250 (3.3Ghz)
Hard Disk	500 GB SSD
System memory	16 GB ECC
Video card	3D NVidia VideoCard 4 GB physical RAM [1] [2] [3]
Slots	1 x PCI Express (1 x PCI Express x16 slot) 1 x USB 2.0 1 x USB 3.0
Monitor (minimum resolution)	4:3 monitor 1280 x 1024 pixel (or higher) Wide Monitor 1344 x 768 pixel (or higher)
Power supply	Use a power supply suitable for the power required by the video card being used

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[1] "RealBODY" feature is only available with use of NVidia video cards.

[2] The use of an NVidia card implies that the rear projection feature (Primary Reconstruction) of NNT software is not available if the program is installed in the same station.

[3] The use of an NVidia card implies that the MAR feature of NNT software is not available if the program is installed in the same station.

15. SYSTEM REQUIREMENTS FOR SMILE LYNX STATIONS

The table below indicates the requirements for the workstations with Smile Lynx software installed.

15.1.REQUIREMENTS FOR SMILE LYNX STATIONS

Operating system	Windows 10 Pro 64 bit build v1909 / v2004 / v20H2 / v21H1
Processor	Intel Xeon W-1250 (3.3Ghz)
Hard Disk	500 GB SSD
System memory	16 GB ECC
Video card	3D VideoCard 4 GB physical RAM
Slots	3 x PCI Express (1 x PCI Express x16 slot) 1 x USB 2.0
Monitor (minimum resolution)	4:3 monitor 1280 x 1024 pixel (or higher) Wide Monitor 1344 x 768 pixel (or higher)
Power supply	Use a power supply suitable for the power required by the video card being used
Additional devices	2 Network card 1Gbps 1 DVD-RW

16. SYSTEM REQUIREMENTS FOR SICAT SUITE WORKSTATION

The table below indicates the requirements for the workstations <u>with SICAT Suite software installed</u>.

16.1.WORKSTATION REQUIREMENTS FOR SICAT SUITE

Operating system	Windows 10 Pro 64 bit build v1909 / v2004 / v20H2 / v21H1
Processor	Intel Xeon W-1250 (3.3Ghz)
Hard Disk	500 GB SSD
System memory	16 GB ECC
Video card	3D VideoCard 4 GB physical RAM
Slots	3 x PCI Express (1 x PCI Express x16 slot) 1 x USB 2.0
Monitor (minimum resolution)	4:3 monitor 1280 x 1024 pixel (or higher) Wide Monitor 1344 x 768 pixel (or higher)
Power supply	Use a power supply suitable for the power required by the video card being used
Additional devices	2 Network card 1Gbps 1 DVD-RW
Web Browsers and other requirements	Microsoft Edge Mozilla Firefox Google Chrome JavaScript activated

17. SYSTEM REQUIREMENTS FOR 3DI TS STATIONS

The tables below indicate the requirements for the workstations <u>directly connected to the 3Di TS acquisition device</u>.

17.1.MINIMUM REQUIREMENTS FOR 3DI TS STATIONS

Operating system	Windows 7 Professional 64 bit SP1 [1] Windows 10 Pro 64 bit
Processor	Intel Core i5 quad core 3.8 Ghz [2]
Hard Disk	80-150 GB free space
System memory	16 GB
Video card	3D VideoCard 4 GB physical RAM
Slots	1 x PCI Express (1 x PCI Express x16 slot) 1 x USB 2.0 1 x USB 3.0
Monitor (minimum resolution)	4:3 monitor 1280 x 1024 pixel Wide Monitor 1344 x 768 pixel
Power supply	Use a power supply suitable for the power required by the video card being used

[1] Operating system supported up to NNT 13.X version
[2] The correct operation of the software is not guaranteed when using processors with lower technical features.

17.2.SUGGESTED REQUIREMENTS FOR 3DI TS STATIONS

Operating system	Windows 10 Pro 64 bit build v1909 / v2004 / v20H2 / v21H1
Processor	Intel Xeon W-1250 (3.3Ghz)
Hard Disk	500 GB SSD
System memory	16 GB ECC
Video card	3D VideoCard 4 GB physical RAM
Slots	1 x PCI Express (1 x PCI Express x16 slot) 1 x USB 2.0 1 x USB 3.0
Monitor (minimum resolution)	4:3 monitor 1280 x 1024 pixel (or higher) Wide Monitor 1344 x 768 pixel (or higher)
Power supply	Use a power supply suitable for the power required by the video card being used

18. SYSTEM REQUIREMENTS FOR NEWTOM IOS STATIONS

The table below indicates the requirements for the workstations <u>directly connected to the NewTom IOS acquisition device</u>.

18.1.REQUIREMENTS FOR NEWTOM IOS STATIONS

Operating system	Windows 10 Pro 64 bit
Processor	Intel Core i7 quad core 2.8 Ghz Clock (or higher) [1]
Hard Disk	≥ 100 GB free space SSD disc
System memory	16 GB DDR4 (or higher)
Video card	NVIDIA VideoCard Graphics Processor [2] [3] [4] 10 Series (GTX): 1070 or higher – Min. 6 GB video memory 20 Series (RTX): 2060 or higher – Min. 6 GB video memory Quadro RTX3000 or higher - Min. 6 GB video memory
Ports	1 x USB 3.0
Monitor (minimum resolution)	Wide Monitor 1920 x 1080 pixel

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[1] The correct operation of the software is not guaranteed when using processors with lower technical features.

[2] The correct operation is guaranteed on Desktop Workstations equipped with NVIDIA proprietary graphics card. Using notebooks/laptops equipped with NVIDIA graphics chipset does not guarantee maximum performance.

[3] The use of an NVidia card implies that the rear projection feature (Primary Reconstruction) of NNT software is not available if the program is installed in the same workstation.

[4] The use of an NVidia card implies that the MAR feature of NNT software is not available if the program is installed in the same station.

19. LIST OF VALIDATED VIDEO CARDS

The following video cards have been validated for use in the workstation dedicated to primary reconstruction of the CBCT data and for metal artefact reduction (MAR) function.

⚠️ **WARNING:**
Use a discrete video card (no APU).

⚠️ **WARNING:**
For the correct operation of the software it is necessary to use the special video drivers available on the software installation support and on the Extranet platform.

In order to choose the appropriate card model, check the power of your PC power supply.

Card (brand and model)	Win7 32 bit	Win7 64 bit	Win8.1 32 bit	Win8.1 64 bit	Win10 64 bit	Power power supply	Validation
AMD Radeon Pro W5500 – 8GB GDDR6					○	≥ 400W	2021
AMD Radeon Pro WX4100 – 4GB GDDR5					○	≥ 400W	2021
Sapphire Radeon RX 5500 XT – NITRO – OC – 8GB GDDR6					○	≥ 500W	2020
AMD Radeon Pro WX3200 – 4GB GDDR5		○			○	≥ 400W	2020
AMD Radeon Pro WX3100 – 4GB GDDR5		○			○	≥ 400W	2019
Sapphire Radeon RX 590 – NITRO – OC – 8GB GDDR5					○	≥ 500W	2019
Sapphire / ASUS Radeon RX 550 – OC – 4GB GDDR5		○			○	≥ 400W	2018
Sapphire Radeon RX 580 – NITRO – OC – 4GB/8GB GDDR5					○	≥ 500W	2017
Sapphire Radeon RX 570 – NITRO – OC – 4GB/8GB GDDR5					○	≥ 500W	2017
Sapphire Radeon RX 560 – OC – 4GB GDDR5					○	≥ 450W	2017
Sapphire Radeon RX 480 – NITRO – OC – 4GB/8GB GDDR5		○		○	○	≥ 500W	2017
Sapphire Radeon RX 470 – NITRO – OC – 4GB/8GB GDDR5		○		○	○	≥ 450W	2017
Sapphire Radeon RX 460 – NITRO – OC – 4GB GDDR5		○		○	○	≥ 400W	2017
AMD FirePro W4300 – 4GB GDDR5	○	○		○	○	≥ 400W	2017
Sapphire Radeon R9 380 – NITRO – OC – 4GB GDDR5		○		○		≥ 500W	2016
Sapphire Radeon R9 270 – BOOST & OC – 2GB GDDR5	○	○	○	○		≥ 500W	2015

Card (brand and model)	Win7 32 bit	Win7 64 bit	Win8.1 32 bit	Win8.1 64 bit	Win10 64 bit	Power power supply	Validation
Sapphire Radeon R7 370 – DualX – OC – 2GB GDDR5		°		°		≥ 500W	2016
Sapphire Radeon R7 360 – NITRO – OC – 2GB GDDR5		°		°		≥ 500W	2016
Sapphire Radeon R7 360 – OC – 2GB GDDR5		°		°		≥ 500W	2016
Sapphire Radeon R7 265 – DualX – 2GB GDDR5	°	°	°	°		≥ 500W	2015
Sapphire Radeon R7 260X – OC – 2GB GDDR5	°	°	°	°		≥ 500W	2015
Sapphire Radeon R7 250X – VaporX – 1GB/2GB GDDR5	°	°	°	°		≥ 400W	2015
Sapphire / ASUS Radeon R7 250 – 1GB/2GB GDDR5	°	°	°	°	°	≥ 400W	2015
ATI FirePro W7000 – 4GB GDDR5 [1]	°	°				≥ 400W	2014
Sapphire Radeon HD 7870 – 2GB GDDR5	°	°	°	°		≥ 500W	2014
Sapphire Radeon HD 7850 – 1GB/2GB GDDR5	°	°	°	°		≥ 500W	2014
Sapphire Radeon HD 7770 – GHZ Ed. – OC – VaporX – 1GB GDDR5	°	°	°	°		≥ 500W	2014
Sapphire Radeon HD 7750 – GHZ Ed. – OC – VaporX – 1GB GDDR5	°	°	°	°		≥ 400W	2014
Sapphire Radeon HD 6970 – VaporX – 2GB GDDR5	°	°				≥ 500W	2013
Sapphire Radeon HD 6950 – VaporX – 1GB GDDR5	°	°				≥ 500W	2013
Sapphire Radeon HD 6870 – VaporX – 1GB GDDR5	°	°				≥ 500W	2013
Sapphire Radeon HD 6850 – VaporX – 1GB GDDR5	°	°				≥ 500W	2013
Sapphire Radeon HD 6770 – VaporX – 1GB GDDR5	°	°				≥ 450W	2013
Sapphire Radeon HD 6750 – VaporX – 1GB GDDR5	°	°				≥ 450W	2013
ATI Radeon HD 5870 – 1GB	°	°				≥ 500W	2012
ATI Radeon HD 5850 – 1GB	°	°				≥ 500W	2012
ATI Radeon HD 5770 – 1GB	°	°				≥ 450W	2012

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[1] Not validated for MAR function.

20. USE OF THE CLOUD FUNCTION

The function that allows sending information/errors automatically using cloud services requires the following features:

• WORKSTATION complying with the indications given in the previous paragraphs (refer to the tables for your device)

• Active Internet connection

• Supported Internet browsers:

Microsoft Edge ≥v79
Mozilla Firefox ≥v72
Apple Safari ≥v13
Opera ≥v66
Google Chrome ≥v79

21. DONGLE KEY USE

The program Dongle Keys are usually connected to a computer where the software is installed, thus inheriting the system minimum requirements.
In case of multi-licence dongle keys (NET), being by definition installable on any network computer (including server) where the program is not installed, the system minimum requirements will be those listed in the table below:

Operating system	Windows 10 64bit build v1607 / v1703 / v1709 / v1803 / v1809 / v1909 / v2004 / v20H2 / v21H1 Windows 8.1 Update 3 Windows 7 SP1 Windows Server 2012 R2 Windows Server 2008 R2 SP1 Windows Server 2008 SP2 Windows Server 2003 SP2
Network / firewall settings	Enable 1947 TCP/UDP port. The workstations using the multi-licence (NET) Dongle Key must be connected to a wired LAN Gigabit network within the same network domain and subnet mask. The multi-licence dongle keys cannot be used in RDP *(Remote Desktop Protocol)* mode.

22. WARNING NOTES ON SOFTWARE USE

NOTE:
The software is optimised for keyboard and mouse use.

NOTE:
The software is optimised to be used with increased resolution monitors (e.g. 4K) connected to Workstations with Windows 10 operating system.

WARNING:
Software correct operation for installation and execution within a Virtual Machine is not guaranteed.

WARNING:
Software correct operation through the use of remote control systems (*Remote Desktop, Teamviewer, VNC, VPN connections etc.*) is not guaranteed.

WARNING:
MAR algorithm can be used only with software executed on a physical machine and not on a Virtual Machine.

WARNING:
Use a wired LAN Gigabit network. The use of LAN WiFi does not ensure image archives/program database consistency and could cause data corruption and/or loss.

WARNING:
The use of synchronization software of the patient archive (patient data and / or images) for the connection of workstations located in different networks does not ensure image archives/program database consistency and could cause data corruption and/or loss.

WARNING:
Software correct visualisation is guaranteed if 100% is set as system font size.
If you are using a different % value with Windows 10, the operating system will adjust the images accordingly by decreasing their resolution: it is recommended to prefer lower % values.