

NX 3.0.22.00 / NX 4.0.22.00	Type 4406/303	No. 01
DR 100e	Type 6012	No. 22
DR 400	Type 5520	No. 105
DR 600	Type 5530	No. 136
DX-D 100	Type 5410	No. 115
DX-D 100 Wireless	Type 5411	No. 145
DX-D 300	Type 8207	No. 131
DX-D 400	Type 5420	No. 94
DX-D 600	Type 5430	No. 152
DR Retrofit	Type 5400	No. 93

Document ID 68532934

Service Bulletin

Release of MUSICA Acquisition Workstation software NX 3.0.22.00 / NX 4.0.22.00

Task

Timing	Category	Scope
<input checked="" type="radio"/> Next service as agreed with customer	<input type="radio"/> Apply at all sites	<input checked="" type="radio"/> Problem Record: PRB2000199, PRB2000202, PRB2000203, PRB2000230, PRB2000286, PRB2000290
	<input checked="" type="radio"/> Apply at affected sites as listed below	
	<input type="radio"/> Optional to improve functionality of product	

Task Tracking

After completion of your task the following entry in your Service Report is required:

68532934

*

* Insert the document number into the field "Comment" (SMS form).

Purpose of this document:

- It announces the introduction of the MUSICA Acquisition Workstation software NX 3.0.22.00 / NX 4.0.22.00 (abbreviated "NX 22.00") as successor of NX 21.00.
- It provides instructions to prepare installation of new NX 22.00 systems and upgrades from NX ≥ NX 2.0.8500 / 3.0.8500.

Affected sites:

Upgrade these systems to NX 22.00 which require the new features or where the listed problems shall be solved.

The signatures on the approval page indicate the solutions described in this Service Bulletin have been reviewed and are NOT reportable because no actions are taken to reduce a "Risk to Health" according to our risk assessment process.

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NX 3.0.22.00 / NX 4.0.22.00

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Type 4406/303

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1 Introduction

The MUSICA Acquisition Workstation software version NX 3.0.22.00 / NX 4.0.22.00 is released. It is the successor of NX 3.0.21.00 / NX 4.0.21.00 (SU1).

Purpose of NX 3.0.22.00 / NX 4.0.22.00:

- Introduction of some new features. For details refer to section 1.3.
- Solution of some Problem Records. For details refer to section 1.4.



NOTE:

The version depends on the presence of the NX_MULTI_FRAME_IMAGING license.

- License not present: Version is NX 3.0.22.00
- License present: Version is NX 4.0.22.00

The NX_MULTI_FRAME_IMAGING license enables dynamic imaging, a feature currently supported by the DR 800 system only.

NX 3.0.22.00 / NX 4.0.22.00 is further abbreviated as "NX 22.00" if both software versions are meant.

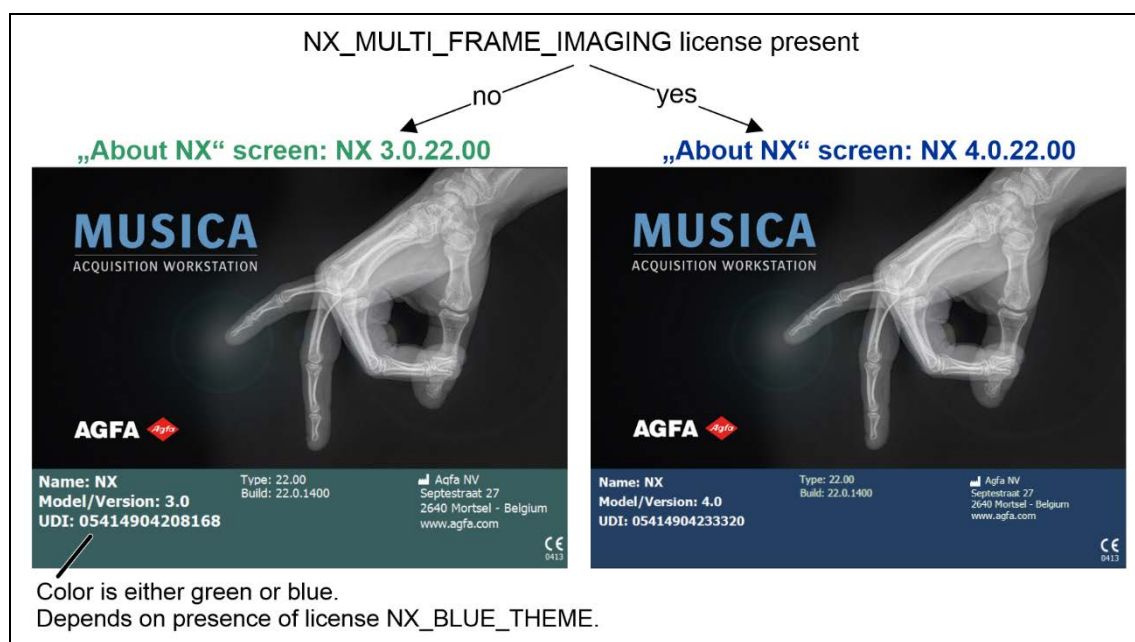


Figure 1

1.1 Release status of NX 22.00 in different CR and DR systems

- NX 3.0.22.00 is released in the following CR systems*.
 - NX workstation in a GenRad system connected to one of following DICOM digitizers: ADC Compact, CR 25.0, CR 35-X, CR 75.0, CR 85-X, DX-G, DX-M, CR 30-X 2nd, CR 30-Xm, CR 10-X, CR 12-X, CR 15-X.
 - NX workstation in a GenRad system connected to the TWAIN digitizers DX-S or CR 30-X 1st.
 - NX workstation in a CR Mammography system connected to one of following Mammography digitizers: CR 25.0, CR 75.0, CR 35-X, CR 85-X, DX-M, CR 30-Xm
- NX 3.0.22.00 is released for SE+NX for NX software upgrades*.
- NX 3.0.22.00 is released within the systems listed below.
 - DR 100e Digital
 - DR 400
 - DR 600
 - DX-D 100 / DX-D 100 Wireless
 - DX-D 300
 - DX-D 400
 - DX-D 600
 - DX-D Retrofit
 - Mammo DR Retrofit
- NX 4.0.22.00 will be released for DR 800 a short time frame after publication of this Service Bulletin. A separate Service Bulletin will be published.

* No additional Service Bulletin announcing the release is published for CR systems and SE+NX.

1.2 Released sub-components

NX 22.00 is released together with the following sub-components:

- APC 3.3
- ASC 6.1
- CDI 3.6
- CPI 2.1**
- DAP Controller SW 1.0
- DMI 2.1
- GGC 1.0
- GMP 2.0**
- IRI 3.0
- RFB 3.0
- SDL 2.1
- Sedecal Console 5.8
- SMS 2.1
- SPM 2.1
- TDI 2.1**
- THX 1.0
- TRI 3.0
- VDI 3.4
- VRN 8.0
- XRDI 20.1

All sub-components except VDI 3.4* were released already before release of NX 22.00.

Release of NX 22.00 is combined with release of VDI 3.4 for DR 400, DR 600, DX-D 100, DX-D 300, DX-D 400 and DX-D 600. For details refer to the VDI 3.4 release SB with Document ID [69191360](#).

The released combinations are published in the Simplified ELMS DR Subproduct Interoperability Matrix, Document ID [35878296](#).

*VDI 3.4 was already released in combination with NX 21.00 for DR Retrofit.

** Combination NX 22.00 with GMP 2.0, CPI 2.1 and TDI 2.1 only released when NX 22.00 is released for DR 800.

1.3 New features in NX 22.00 compared to NX 21.00 SU1

**NOTE:**

This section lists a brief overview of the new features.

The new features are explained in detail in the Application Note “Functional Changes in NX 3.0.22.00 / NX 4.0.22.00”, Document ID [68534240](#).

New features for the user in NX 3.0.22.00 and NX 4.0.22.00:

- Smart rotate introduced to correct the image orientation for presentation. Currently released for body part “hand” only. Related new license: NX_AI_AUTO_ROTATE.
- Support for DICOM Query/Retrieve. Related new license: NX_QUERY_RETRIEVE_SCP.
- “Pause and Check” window in the user interface. When enabled, the operator needs to confirm that a number of checks were performed when identifying an exposure in a new exam in NX. The content of the “Pause and Check” confirmation dialog is configurable and imported in the user interface as a bitmap image. Related new license: NX_PAUSE_CHECK.
- Added the possibility to use the Windows 10 virtual keyboard for mobile systems (Convertibles; DX-D 100; DR 100e). This is done by introduction of license NX_HOT_VIRTUAL_KEYBOARD.

- License present at a Windows 10 system: The separate available “Hot Virtual Keyboard” is installed (known from previous NX versions).

- License not present at a Windows 10 system: The Windows 10 virtual keyboard is used.

For Windows 7 systems nothing changes: “Hot Virtual Keyboard” is installed by the Activation Utility whenever the NX_DR_MOBILE license is present.

- Handling of rejected images during export: A separate checkbox is available to included or exclude the rejected images in an export.
- Force operator identification on start exam: The amount of configurable, predefined operators is increased to more than 50 entries.
- Display other units for DAP (dose area product): The variation of the unit representation for DAP is now selectable. The unit is displayed all panes except in View All, where always the DICOM unit dGy*cm2 is used.
- Multiple selection check box introduced to perform the same action on several thumbnails in parallel. Available in the examination, acquisition and editing view of the NX User interface
- For FLFS anatomical stitching an approved algorithm is implemented; the success rate of stitching is increased from 30% to 88%.
- The Extended Dose Reporting is enhanced with a new combo box ‘Select Summaries’.
- DAP for stitched FLFS image (CR and DR)
- Optimized export progress indicator
- Modular documentation: Possibility to install additional user documentation on NX.
- Tomosynthesis support for DR 600. This also requires new software on DR 600. Release will be announced by DR 600 Service Bulletin.

- “Smart DR” support on DR 600. This is a feature supporting the workflow using a camera mounted at the collimator. Release will be announced by DR 600 Service Bulletin. New licenses NX_SMART_AEC_COLLIM (for AEC collimation guidance) NX_SMART_DOSE (for dose adaptation guidance based on patient thickness) and NX_SMART_PANEL_ORIENT (for panel alignment guidance for free exposures).
- Support for DAP Reference Level in DR Retrofit systems without DAP meter.
- DAP value entry in DR Retrofit systems with DAP meter integration.
- SSL (Secure Sockets Layer) protocol is replaced by TLS (Transport Layer Security) protocol.
- Added checkbox to include rejected images on export.

New features for the user in NX 4.0.22.00 (currently available for DR 800 only):

- Scattered selection in the Mosaic View
- RAD images as part of an acquisition group can be inverted by default
- Availability of DAP reference level of an acquisition group
- Availability of dose information for acquisition groups
- Dose monitoring adapted to support DAP Reference Level of an acquisition group
- Dose Reporting: display dose info of dynamic images on group thumbnail
- Dose Reporting: report Air Kerma for dynamic images in DICOM

New features for the service user

- The Starterkit DVDs have been replaced by a Starterkit USB flash drive. This is part of delivery of new systems and available as spare part and sales item.
- The NX 22.00 software on the Library is just on single ISO file. This file can either be burnt on CD or extracted on the Service PC, using for example 7ZIP.

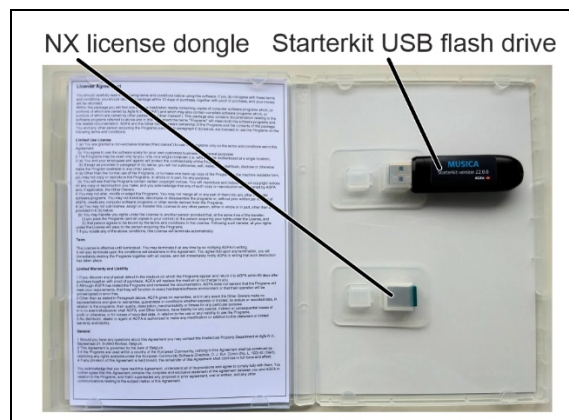


Figure 2

- The following new feature has already been introduced in 03-2019:
All NX error codes that might appear in the NX user interface (for example MESS10 or APCMESS68 or TDIMESS1) have been extracted from the NX requirements database and published with Document ID [68274899](#) on the Library. This document can be used as a reference if the customer just mentions the error code or if an error code appears in a logfile. It is planned to update this document regularly.
- Added the ELMS Swap PC Workflow in NX 22.00 Service Manual section 4, Installation, Appendix. This workflow describes how to get a new NX license file when replacing a NX PC.

1.4 Solved Problem Records

NX 22.00 is a solution for the following Problem Records:

1.4.1 Lost MUSICA2 taste settings after NX software upgrade [PRB2000199]

CR / DR Systems The following software issue is applicable for all CR and DR systems.

Symptom After NX software upgrade, the MUSICA2 taste settings are lost for these packages, where also MUSICA3 packages exist.

Example:

Abdomen MUSICA2 settings before upgrade:

- Brightness -1
- Contrast 1
- Sharpness -4

Abdomen MUSICA2 settings after the upgrade:

- Brightness 0
- Contrast 0
- Sharpness 0

For the following packages MUSICA2 and MUSICA3 packages exist:

Abdomen, Abdomen Ped, Chest, Chest Ped, Mammography (all types), Neo-Natal, Skeleton, Skeleton Ped.

Cause Software issue, present since NX 2.0.8900 / 3.0.8900.

Workaround Restore the settings manually after the upgrade.

Solution The issue is not present anymore when upgrading to NX 22.00.

1.4.2 DAP values in some cases not displayed in the XRG parameters pane [PRB2000202]

*CR / DR
Systems*

The following software issue is applicable for DR Retrofit systems only in combination with external DAP chamber (VacuDAP).

Symptom

After upgrade to NX 21.00 SU1, the received DAP values in some cases are not displayed.

Cause

Software issue.

Workaround

Possibility 1: Remove the DAP value from the XRG parameter pane. In this case the DAP value will not be cleared. Disadvantage: The DAP value cannot be entered manually in case of CR exposures or when no DAP value is present and the DAP value is not visible in the examination environment. The DAP value can only be checked via Main Menu >View All Image Attributes.

Possibility 2: Include the license XREDI_SUPPRESS_XRG_EDITING. This blocks the manual entry of XRG parameters entirely. In this case the DAP value is visible if the DAP is part of the XRG parameters pane but cannot be changed manually nor can any other attribute from the XRG parameter pane.

Solution

Upgrade to NX 22.00. There the issue is solved.

1.4.3 Merged dynamic sequences sometimes cannot be archived [PRB2000203]

*CR / DR
Systems*

The following software issue is applicable for DR 800 only.

Symptom

Since introduction of NX 21.00 it is possible to merge dynamic sequences into a new one. Depending on the image orientation, the translation to DICOM will not succeed and the merged sequence cannot be archived nor can the group of the merged sequence be exported as a DICOM file. This was an internal finding.

Cause

Software issue. In order to merge sequences, not only the width and height of the image should be the same but also its orientation.

Workaround

None

Solution

Upgrade to NX 22.00. There the issue is solved.

1.4.4 Only the 1st FLFS exam of an exposure group can be started [PRB2000230]

CR / DR Systems The following software issue is applicable for these DR systems only, where the Full Leg / Full Spine option is used.

Symptom With the following setup, the second Full Leg / Full Spine examination does not start automatically:

Initial NX configuration:

- Exposure group contains two (or more) DR FLFS exposure types
- This exposure group is assigned to a protocol code to be called up by the RIS

Result after NX software upgrade:

Only the first FLFS exam can be started automatically.

Selecting the second DR FLFS does not enable the "Start FLFS" button.

Cause Software issue when upgrading NX software. Present since introduction of DR FLFS with NX 2.0.8600 / 3.0.8600.

Workaround The user needs to add the second DR FLFS exam manually.

Solution Upgrade to NX 22.00. There the issue is solved.

1.4.5 Very sporadically archiving is delayed [PRB2000286]

CR / DR Systems The following software issue is applicable for all CR and DR systems.

Symptom In some very rare cases the image is not archived immediately. It takes hours until the archive icon changes from red to green in the NX GUI (Graphical User Interface) and the image is archived properly.

Cause Software issue in DICOM library. Due to this software issue the character file is not released properly after usage in all cases.

This DICOM library is also used in NX < NX 21.00 SU1, so the error can also happen in versions below NX 21.00 SU1.

Workaround Restart NX application and resend images again to archive.

Solution Upgrade to NX 22.00. There the issue is solved.

1.4.6 Error MESS310 in case of date based search in CMS [PRB2000290]

CR / DR Systems The following software issue is applicable for all CR and DR systems with CMS (Central Monitoring Station).

Symptom When doing a date based search on a CMS, error MESS301 is displayed. The search does not give any results. This fault is present in NX 21.00 (SU1) only.

Cause Software issue.

Workaround Do not use search by dates, only by person name.

Solution Upgrade to NX 22.00.

1.5 Additional improvements

The following additional improvements are implemented in NX 22.00.

- Manually entered DAP values were not taken into account for the DAP Reference Level.
- To enable smart card login, at systems with DR_MOBILE license the legal notice (This system may only be used by authorized persons – displayed after boot, sign-out and after screen lock) is removed.
- Added model file for SE 2.0 as additional archive type in the NX configuration tool (SE Suite2.0 - V22.0.0.0).
- Added model file for DR 100s monitor in the NX configuration tool (CYBERMED NB22 (DR100S) 1920x1080 _NX_1500x.xml)
- Introduction of a new exposure type / thumbnail icon for Tomosynthesis with Fluo to be able to distinguish an exam which is for Tomosynthesis without Fluo.
- When entering the AE title for DICOM viewer in lower case, the misleading message MESS211 was displayed: Click here to correct the AE-Title in the Workstation Settings.

2 Prerequisites



IMPORTANT:

The installation and service of the product(s) described herein is to be performed by qualified personnel who are employed by Agfa NV or one of its affiliates or who are otherwise authorized by Agfa NV or one of its affiliates to provide such services.



IMPORTANT:

Strictly observe all safety directions within the "Generic Safety Directions", Document ID [11849633](#).

2.1 Prerequisite for NX 22.00 upgrade installation

Prerequisite for NX 22.00 Upgrade Installation (In Room Workstation or Central Monitoring Station):

- NX software \geq NX 2.0.8500 / 3.0.8500
- Windows 7 SP1 (or higher Service Pack) or Windows 10-64 bit

Windows XP is not supported. For details to Windows XP refer to information in NX 3.0.9000 SB01, Document ID [57096072](#).

2.2 Prerequisite for NX 22.00 Office Viewer installation

Prerequisite for NX 22.00 Office Viewer installation:

- Windows Vista SP2
- Windows 7* SP1 (or higher Service Pack)
- Windows 8.1*
- Windows 10*

* 32 bit and 64 bit version

The Office Viewer needs to be on the same software version like the In Room workstation. The upgrade is usually performed by the user.

2.3 Prerequisite for NX 22.00 Offline Configuration Tool installation

Prerequisite for NX 22.00 Offline Configuration Tool installation:

- Windows Vista SP2
- Windows 7* SP1 (or higher Service Pack)
- Windows 8.1*
- Windows 10*

* 32 bit and 64 bit version.

2.4 Required software for upgrades and new installations

SOFTWARE:

- For upgrades order the NX 22.00 upgrade kit (Starterkit USB flash drive):
 - Via spare part code*: CM+6235900
NX22.00 CLEAN INSTALLATION KIT (USB STICK)
or
 - Via Sales ABC code: MAET6 (SW UPGRADE TO NX-MW22)
- * The last digit in the spare part number indicates the spare part revision at release of this document. When ordering, the current revision of the spare part is delivered.
- The NX 22.00 ISO file (NX_X.0.22.00_USB_V22.0.1.iso; size 12 GB*) is available for download on the global secure FTP server. Contents of the ISO file:
 - NX 22.00 software
 - NX 22.00 user documentation
 - Drivers and monitor software for Windows 7 and Windows 10
 - Windows 7 hotfixes up to hotfix 90 (91 to 95 are not supplied as they are not compatible with VRN 7.X and IRI software)
 - Windows 10 hotfix 05.

A complete list of provided software is also available in the NX 22.00 Service Manual, chapter 03, Installation Planning.

Download the files from the global secure FTP server using an FTP client. For details see Service Information Bulletin "Global Secure FTP Server – Imaging Services Software Download", Document ID [36831163](#).

* also available as 12 pieces of 1 GB, to be combined with 7ZIP.

TOOLS:

An offline configuration tool for NX 22.00 is separately available on the global secure FTP server with document ID [69285278](#). It is also included in the NX 22.00 ISO file.

2.5 Required license file for upgrades and new installations

LICENSE FILE

- Organize a new ALF (Application License File) for the NX workstation which shall be installed or upgraded. For details to the ALF file refer to the ELMS online help on <https://helicensing.agfa.net/rc/>.
 - When creating the new license file for a software upgrade or new installation, it is recommended using the ELMS feature "Create ELMS Software Collection Tool".

For more information refer to NX 2.0.8900 / 3.0.8900 SB07, Using the ELMS Software Collection Tool to improve service efficiency, Document ID [49695878](#).

- When organizing a new license file, ensure to write down the password for user crservice. This password will be active after loading the license file.

2.6 Required documents for upgrades and new installations

DOCUMENTS:

Download the NX 22.00 service manual from the Agfa HealthCare Library > Computed Radiography > MUSICA Acquisition Workstation > NX 3.0.22.00 / NX 4.0.22.00, Document ID [68534252](#).

For additional required documents refer to NX 22.00 chapter 03, Installation Planning (part of the complete service manual).

3 Instructions

REQUIRED TIME:

- Installation of a new system:
The Mean Time to Install (MTTI) of a staged system is specified for 4 hours. For details refer to the Service Plan NX 3.0.22.00 / NX 4.0.22.00 Document ID [68534070](#).
- Upgrade installation: Minimum 1,5 hours. Depends on the complexity of the situation on site.
Note that installing hotfixes on Windows 7 may already take up to 1 hour, depending on the hotfix status.

3.1 Instructions for new installations

- (1) Plan the installation as described in NX 22.00 Service Manual, chapter 03 Installation Planning.
- (2) Install and configure as described in NX 22.00 Service Manual, chapter 04 Installation and Configuration.

3.2 Instructions for upgrades

- (1) Before scheduling an upgrade, check whether the system on site fulfills the prerequisites mentioned in sections 2.1 and 2.2.
- (2) Refer to the Service Plan NX 3.0.22.00 / NX 4.0.22.00 Document ID [68534070](#) for information about upgrades.
- (3) When performing an upgrade in combination with hardware replacement (new PC): Use NX 21.00 Service Bulletin No. 07, MUSICA Acquisition Workstation – Windows 10 upgrade program, Document ID [68621246](#) to plan the upgrade.

- (4) Observe the compatibility to the hardware platform and other system components as described in
 - Solution Structure Data, Document ID [30781759](#)
 - CR/DR Interoperability Matrix, Document ID [31333326](#).
 - Simplified ELMS DR Subproduct Interoperability Matrix, Document ID [35878296](#).
- (5) Upgrade as described in NX 22.00 Service Manual, chapter 07 Upgrade Installation.

**IMPORTANT:**

- For upgrades starting from NX 3.0.8950, do not use the automatic NX software upgrade wizard, but perform manual uninstall and install steps as described in NX 22.00 Service Manual section 7, Upgrade Installation.
Reason: SQL Server 2014 to SQL Server 2014 SP2 upgrade fails with the automatic upgrade wizard.
- Reboot the PC prior to starting the NX Installer. This is required to assure that installation of third-party software (such as SQLServer) doesn't fail because Windows has flagged pending reboots.

**NOTE:**

- The **Solution Structure Data document** lists the components per CR / DR solution.
- The **CR/DR Interoperability Matrix** shows the released hardware and software combinations on component level. It is just for reference.
- The **Simplified ELMS DR Subproduct Interoperability Matrix** shows the released DR hardware and software components per DR system.
It is used by "Simplified ELMS" to automate the creation of license files for NX, containing the right versions of the DR sub products (XRDI, Software Console, Detector Software, etc...)

4 Verification

- (1) Verify the installation or upgrade as described in NX 22.00 Service Manual, chapter 06, Acceptance Test Procedure.

5 Keywords

NX22, NX 3.0.22.00/4.0.22.00

6 Version history

Version	Change	Date
1.0	Initial Version	06-2019



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