

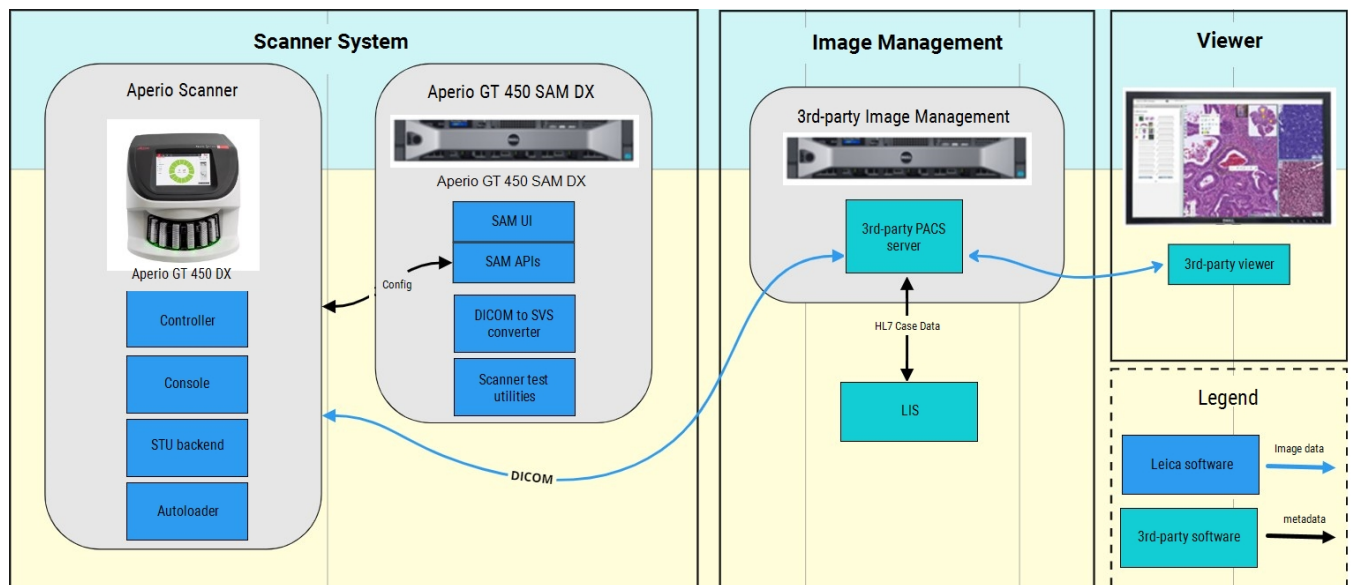
## UPGRADE GUIDE

Aperio GT 450 DX releases 1.2 and later support an optional DICOM feature pack that enables third-party developers to obtain digital slide images (and metadata) created by the Aperio GT 450 DX scanner to use in their own viewers or LIS (Laboratory Information System) products.

### 1. Aperio GT 450 DX 1.2 DICOM Feature Pack

With this optional upgrade to the DICOM feature pack, information is added to the digital image that makes the images more useful to third-party developers. For more information on configuring the scanner to provide this additional information, see [Configuring Aperio GT 450 SAM DX for DICOM \(on page 2\)](#).

Here is an illustration of how the process works.



The third-party developer retrieves the DICOM images and metadata by accessing the DICOM image file share defined in Aperio GT 450 SAM DX or by using the C-STORE protocol.



When the Aperio DICOM Service is in use and installed on the server hosting the Aperio GT 450 SAM DX software, the Aperio GT 450 SAM DX software controls no more than four Aperio scanners. When the DICOM Service is installed on a separate server or when images are transferred directly to PACS/IMS using the C-STORE protocol, this limitation does not apply.

## 2. Installation

The Aperio GT 450 DX DICOM Upgrade requires a trained Leica Technical Services representative to perform the install and configuration. Temporary remote connectivity to the Aperio GT 450 SAM DX Server via a remote access tool such as WebEx or TeamViewer is required to complete the installation.

## 3. Resources

For more information on the Aperio DICOM implementation, refer to:

- *Aperio DICOM Conformance Statement, MAN-0465, Revision D or later.*
- Depending on your scanner's configuration:
  - *Aperio GT 450 DX IT Manager and Lab Administrator Guide, MAN-0483, or*
  - *Aperio GT 450 DX IT Manager and Lab Administrator Guide, MAN-0507*

## 4. Configuring Aperio GT 450 SAM DX for DICOM

After the DICOM feature pack is installed and configured by Leica Biosystems Technical Services, log into Aperio GT 450 SAM DX as a Lab Admin.

1. Confirm that the Scanners icon in the banner is selected and the page shows the list of scanners.

Scanner Name	Model	Status
Scanner Lab 1	Aperio GT 450 DX	ONLINE
Scanner Lab 2	Aperio GT 450 DX	ONLINE
PathLab 1	Aperio GT 450 DX	OFFLINE
PathLab 2	Aperio GT 450 DX	OFFLINE

2. Click the **Scanners** icon to display the list, if necessary.
3. Hover over the name of the scanner until the edit symbol appears, then click the scanner name.
4. Click **Images** in the left side-bar to go to the Images page.

Configure settings for the DICOM image host Edit

HOSTNAME  
scanneradmin

PORT  
2762

TITLE  
SVS\_STORE\_SCP

FILE LOCATION  
\\uscavs-esmmfg\Images\PreBeta6

IMAGE FILENAME FORMAT  
{IMAGEID}-{BARCODEID} ⓘ

BARCODE VALUE IDENTIFIER  
\\d{6} ⓘ

BARCODE VALUE MODIFIER  
[(.\*)&amp;\$] ⓘ

BARCODE VALUE SUBSTITUTION FORMAT  
\$1&amp;amp; ⓘ

IMAGE OUTPUT FORMAT  
DICOM ▾

SLIDE ID FORMAT  
\\d{23}\\d{23} ⓘ

CASE ID FORMAT  
\\d{23}\\d{23} ⓘ

DIMENSION ORGANIZATION TYPE  
Full ▾ ⓘ

REQUIRE BARCODE ID

- a. In the **Image Location** box, type the file share where the images will be output.
- b. In the section labeled **Image Output Format**, select **DICOM**.
- c. In the **Slide ID Format** box, type the Slide ID format as a regular expression.



A regular expression, regex or regexp, is a sequence of characters that define a search pattern. If you are not familiar with regular expressions, contact Leica Biosystems Technical Support for assistance.

- d. In the **Case ID Format** box, type the Case ID format as a regular expression.
- e. In the **Dimension Organization Type** box, select either **FULL** or **SPARSE**.

The **Dimension Organization Type** box selects how the DICOM images will be organized and encoded.

**SPARSE** selects the DICOM value TILED\_SPARSE. In this format:

- Tile coordinates and position must be explicitly recorded for each tile.
- Not all tiles need to be present.
- Frame items can be encoded in the pixel data element in any order.

**FULL** selects the DICOM value TILED\_FULL. In this format:

- A frame must exist for each file of the rectangular total pixel matrix.
- A frame must exist for every tile.
- The order in which the tiles are encoded in the pixel data element is predictable. Each type of format has advantages and disadvantages in processing speed.

# Aperio GT 450 DX DICOM Upgrade Guide

MAN-0515, Revision B | April 2024

This manual applies to Aperio GT 450 DX and Aperio GT 450 SAM DX Software version 1.2 and later.


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- This product is protected by registered patents. For a list of patents, contact Leica Biosystems.


## Customer Resources

- For the latest information on Leica Biosystems products and services, please visit [LeicaBiosystems.com/Aperio](https://www.leicabiosystems.com/Aperio).


## Contact Information – Leica Biosystems Imaging, Inc.


Headquarters	Customer Support
 <p>Leica Biosystems Imaging, Inc. 1360 Park Center Drive Vista, CA 92081 USA Tel: +1 (866) 478-4111 (toll free) Direct International Tel: +1 (760) 539-1100</p>	<p>Contact your local support representative with any query or service request.</p> <p><a href="https://www.leicabiosystems.com/contact-us/">https://www.leicabiosystems.com/contact-us/</a></p>

European Union Authorized Representative	United Kingdom Responsible Person
 <p>CEpartner4U Esdoornlaan 13 3951 DB Maarn The Netherlands</p>	<p>Leica Microsystems (UK) Limited Larch House, Woodlands Business Park Milton Keynes, England, United Kingdom, MK14 6FG</p>

Importers	
 <p>Leica Biosystems Deutschland GmbH Heidelberger Straße 17-19 69226 Nussloch, Germany</p>	<p>Leica Microsystems (UK) Limited Larch House, Woodlands Business Park Milton Keynes, England, United Kingdom, MK14 6FG</p>

 815477020297, 815477020389, 815477020525, 815477020518

 23GT450DXIVD, 23SAMSWDXIVD, 23GT450DXUS, 23SAMSWDXUS, 23GT450DXDICOMPERP

# Notices

## Revision Record

Rev.	Issued	Sections Affected	Detail
B	April 2024	All	Revised to support new Aperio GT 450 DX part numbers: 23GT450DXUS, 23SAMSWDXUS.
A	June 2023	All	New document for Aperio GT 450 DX DICOM upgrade.

## Cautions and Notes

- **Serious Incidents Reporting** - Any serious incident that has occurred in relation to the Aperio GT 450 DX shall be reported to the manufacturer and the competent authority of the member state in which the user and/or the patient is established.
- **Specifications and Performance** - For device specifications and information on performance characteristics, refer to the document, *Aperio GT 450 DX Specifications*.
- **Installation** - Aperio GT 450 DX must be installed by a trained Leica Biosystems Technical Services representative.
- **Repair** - Repairs may be done only by a trained Leica Biosystems Technical Services representative. After repairs are done, ask the Leica Biosystems technician to perform operation checks to determine the product is in good operating condition.
- **Accessories** - For information on using Aperio GT 450 DX with third-party accessories such as a Laboratory Information System (LIS) not provided by Leica Biosystems, contact your Leica Biosystems Technical Services representative.
- **Quality Control** - For information on image quality checks, see the *Aperio GT 450 DX User's Guide*.
- **Maintenance and Troubleshooting** - For information on maintenance and troubleshooting problems, see the *Aperio GT 450 DX User's Guide*.
- **Cybersecurity** - Be aware that workstations are susceptible to malware, viruses, data corruption, and privacy breaches. Work with your IT administrators to protect workstations by following your institution's password and security policies. For Aperio recommendations on protecting your workstations and servers, see the document *Aperio GT 450 DX IT Manager and Lab Administrator Guide*.

If a suspected Aperio GT 450 DX cybersecurity vulnerability or incident is detected, contact Leica Biosystems Technical Services for assistance.

- **Training** - This manual is not a substitute for the detailed operator training provided by Leica Biosystems or for other advanced instruction.
- **Safety** - This device is intended for indoor use only. Safety protection may be impaired if this device is used in a manner not specified by the manufacturer.



For additional information on this product, including intended use and symbols glossary, please refer to the primary instructions for use, *Aperio GT 450 DX User's Guide*.