

Exa[®] PACS/RIS

Feature Summary

Mammography DMs


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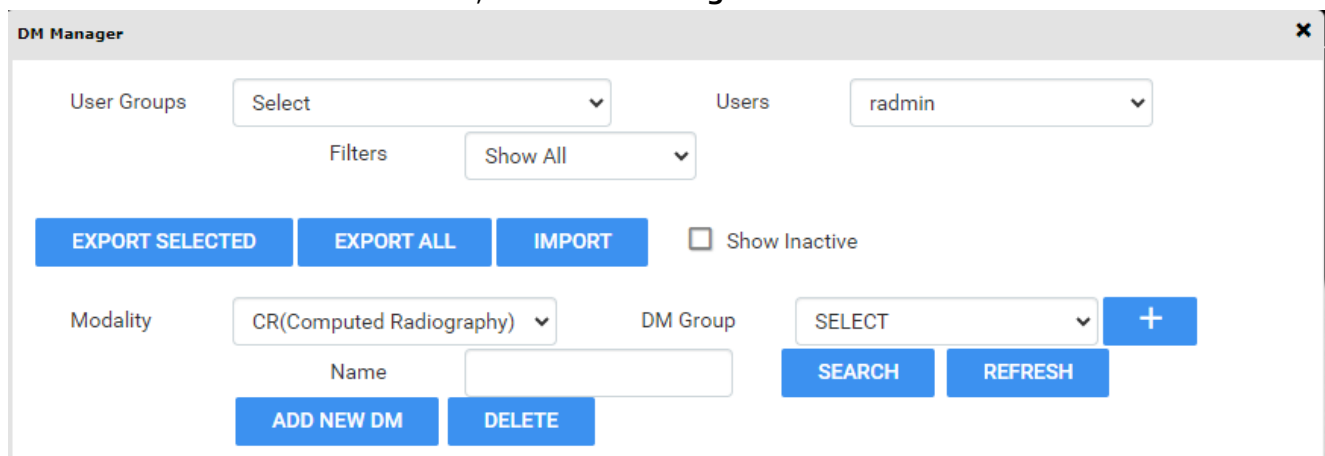
The information below provides a summary of tasks related to mammography DMs (hanging protocols). See also, “Work with display management” in the user’s manual. Mammography uses two main view groups or “families”: CC and MLO. These families contain the following other views.

CC Family		MLO Family	
CC	Craniocaudal	MLO	Mediolateral Oblique
XCC	Exaggerated Craniocaudal	ML	Mediolateral
XCCL	Exaggerated Craniocaudal Lateral	LMO	Lateromedial Oblique
XCCM	Exaggerated Craniocaudal Medial	LM	Lateromedial Oblique
FB	From Below: Caudocranial	SIO	Superolateral to Inferomedial Oblique

Additional positioning: Implant Displacement, Spot compression, Cleavage, Rolled lateral, Rolled medial, Rolled superior, Rolled inferior, Tangential, Axillary tail, Magnification
Typically, we build DMs so that you can scroll through these views with the mouse wheel.

Open DM Manager

1. On the viewer toolbar, select the display manager  button.
2. In the button shortcut menu, select **DM Manager**.



EXPORT SELECTED: Exports the selected DMs (select by checking the box).

EXPORT ALL: Exports all DMs in the system for all users.

IMPORT: Imports previously exported DMs (.json file).

MODALITY: Select the modality you want to review.

DM GROUP: Groups your DMs for same modality exams where many DMs will match. Select the + button to add a group. Example: Screening vs Diagnostic DM’s (Hanging protocols)

NAME: Search for a DM within its modality.

ADD NEW DM: Create a DM.

DELETE: Delete a DM.

Name	Pages	Summary	Availability	Owner	Preview
<input type="checkbox"/> Screening	2	MG,SC	Private		<div style="display: flex; align-items: center;"> <div style="display: grid; grid-template-columns: repeat(2, 1fr); gap: 5px;"> <div style="width: 30px; height: 30px; border: 1px solid #ccc;"></div> <div style="width: 30px; height: 30px; border: 1px solid #ccc;"></div> <div style="width: 30px; height: 30px; border: 1px solid #ccc;"></div> <div style="width: 30px; height: 30px; border: 1px solid #ccc;"></div> </div> <div style="margin-left: 10px;"> + ✎ 🗑 📄 📄 </div> </div>

Checkbox : Select the DM to export.

Availability: Private = Available only to the user that created it. Global = Available to all users.

Add to DM Group +: Add the DM to a DM group.

Edit Icon ✎: Edit a DM.

Delete Icon 🗑: Delete a DM.

Duplicate Icon ⬇: Duplicate a DM.

Copy Icon 📄: Copy the DM to another user or group.

It can be useful to duplicate a DM or copy one for another user by using the buttons on the right side of the main screen (see the figure below). To edit an existing DM, double-click it or click the pencil button. With the proper rights, you can import and export DMs. Otherwise, you can copy a DM for a user who does have the proper rights.

The following is an example of how to build a DM that displays priors on top and current images (RCC, LCC, RMLO, LMLO) on the bottom. This DM shows all main views, specialty views such as spot and cleavage, synthesized views, and implant displaced views.

1. In the viewer, on the toolbar, select the **DM** button, and then in the button shortcut menu, select **DM Manager**.
2. Select **ADD New DM**.
3. Type a name for the DM, and then enter required settings.
 OPTIONAL: In the **Body Part** list, select the most accurate option.

DM Manager ✕

HP Properties

Name * Inactive Private

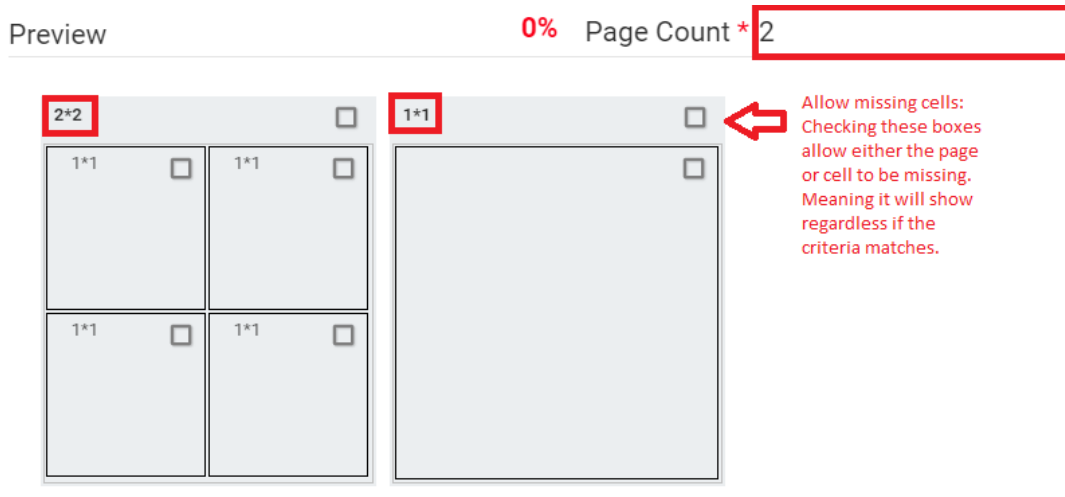
HP Identifier **Modality**

Modalities * ▾

Body Part * ▾

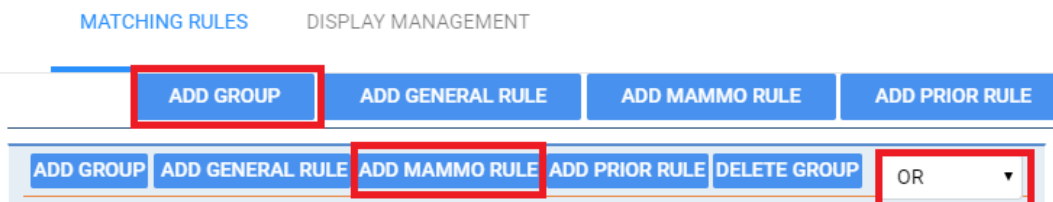
4. Type the number of pages (the number of monitors).
5. Select the layout (such as 2*2 or 1*1), and then select the number of cells.
6. Select the **Allow missing cells** checkbox for each page and/or cell as needed.

This allows the DM to hang even if not all images are present in the cell or page, such as for a unilateral diagnostic.



7. Select a cell, and then on the **MATCHING RULES** tab, select **ADD GROUP**.
8. In the list, select **OR**, and then select **ADD MAMMO RULE**.

Note: "OR" means "if this rule does not match, check another rule."



We build mammography DMs in a group to have the system look for multiple views, which allows us to use one DM for multiple scenarios. There is a new improvement available in version 33 that enables stacking images and scrolling through stacked images. When creating DMs, build the logic based on how you would like the images to display. For example, if you want a stacked image DM with implant displacement views first, and to then have the ability to scroll to the traditional 2D, build the ID view logic first.

- For the top left cell, add the following rule.
Right, CC Family, DON'T CARE, Processed

Mammo Rule [Close]

Side * Left Right ?

View *

Processing Type * Unprocessed Tomosynthesis Synthesized View Processed ?

Image Index

[CANCEL]

This rule means, “Right side, CC Family (all views, see above), any specialty view in the list except ID (implant displacement), and processed.”

- Select **SAVE**.

Result: Five rules appear.

MATCHING RULES DISPLAY MANAGEMENT

[ADD GROUP] [ADD GENERAL RULE] [ADD MAMMO. RULE] [ADD PRIOR RULE]

[ADD GROUP] [ADD GENERAL RULE] [ADD MAMMO. RULE] [ADD PRIOR RULE] [DELETE GROUP] OR [v]

- DONT CARE / CC // ANY - Side : Right | Processing Type : Processed | [edit] [trash]
- DONT CARE / XCC // ANY - Side : Right | Processing Type : Processed | [edit] [trash]
- DONT CARE / XCCL // ANY - Side : Right | Processing Type : Processed | [edit] [trash]
- DONT CARE / XCCM // ANY - Side : Right | Processing Type : Processed | [edit] [trash]
- DONT CARE / FB // ANY - Side : Right | Processing Type : Processed | [edit] [trash]

- Select **Add Mammo Rule** inside the group, and then add the following additional rules.

MATCHING RULES DISPLAY MANAGEMENT

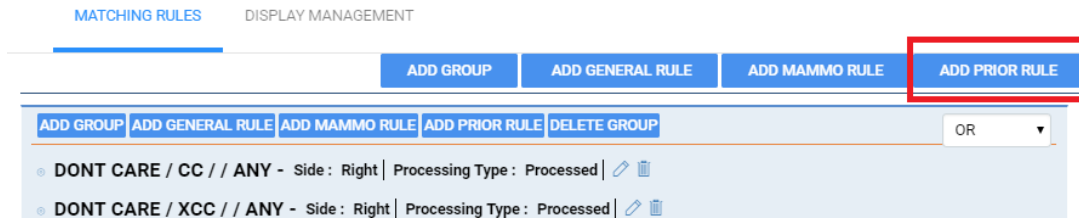
[ADD GROUP] [ADD GENERAL RULE] [ADD MAMMO. RULE] [ADD PRIOR RULE]

[ADD GROUP] [ADD GENERAL RULE] [ADD MAMMO. RULE] [ADD PRIOR RULE] [DELETE GROUP] OR [v]

- Right, CC Family, Don't Care, Synthesized
- Right, CC Family, ID, Processed
- Right, CC Family, ID, Synthesized

12. From outside the group, select **ADD PRIOR RULE** for this cell.

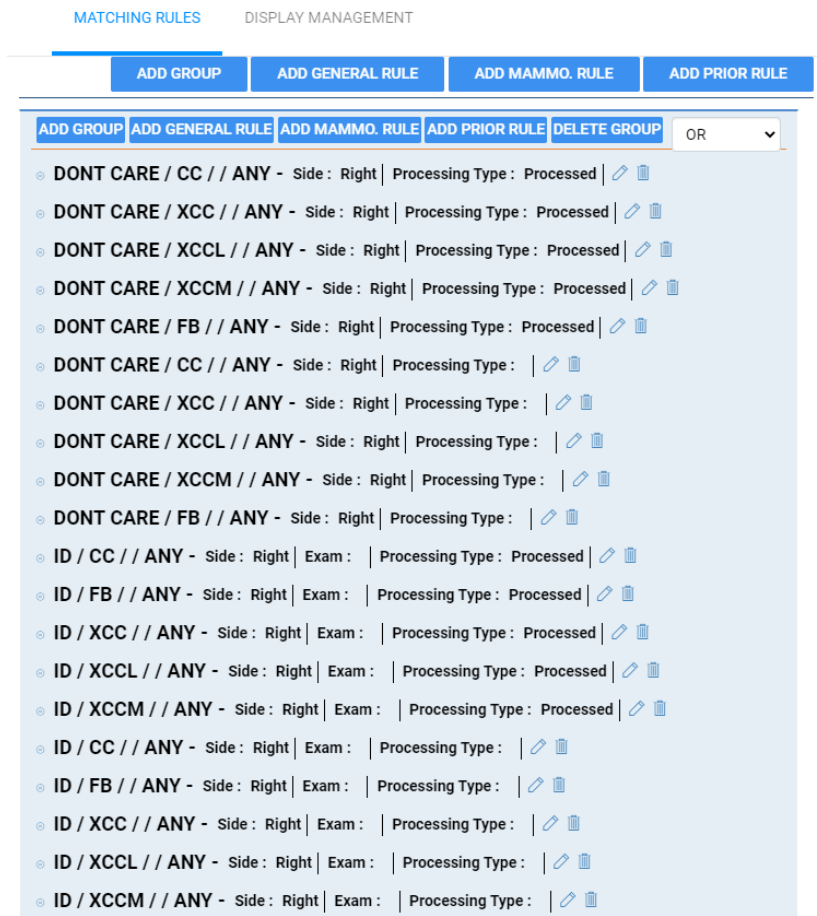
Note: It is outside the group because we want to apply the rule to the entire group.



Prior Rule: Study Index

- **Any:** Displays all MG priors. The specific number is controlled by the Auto Open rule under MG Modality Options.
- **1:** shows the first prior
- **2:** shows the second prior, etc.

Logic for this cell:



13. In the **DISPLAY MANAGEMENT** tab, change the way the image displays by modifying the options below. This tab is available for each cell to automatically apply additional processing.
*The Auto Fusion feature is not yet available.
14. Start on the next cell, and continue.
15. Click **SAVE** at the top.

MATCHING RULES
DISPLAY MANAGEMENT

UPDATE

Auto-Orient (Blank to Disable):	<div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid #ccc; padding: 2px;">Right Edge</div> <div style="border: 1px solid #ccc; padding: 2px;">Bottom Edge</div> </div> <div style="margin-top: 5px;"> <input style="width: 60px; height: 20px;" type="text"/> <input style="width: 60px; height: 20px;" type="text"/> </div>	LUT	<div style="border: 1px solid #ccc; padding: 2px; display: flex; justify-content: space-between;"> Auto ▼ </div>	Bone Enhance	<div style="border: 1px solid #ccc; padding: 2px; display: flex; justify-content: space-between;"> ▼ </div>
Rotation (Clockwise)	<div style="display: flex; align-items: center;"> <div style="border: 1px solid #ccc; padding: 2px; margin-right: 10px;">None ▼</div> <input type="checkbox"/> Mirror </div>	Window/Level	<div style="display: flex; align-items: center;"> <input type="radio"/> Default <input type="radio"/> Custom <input style="width: 40px; height: 20px; margin-left: 5px;" type="text"/> <input style="width: 40px; height: 20px; margin-left: 5px;" type="text"/> </div>		
View (Zoom)	<div style="border: 1px solid #ccc; padding: 2px; display: flex; justify-content: space-between;"> Fit to W ▼ </div>	Reprocess	<div style="border: 1px solid #ccc; padding: 2px; display: flex; justify-content: space-between;"> ▼ </div>		

Invert
 Sigmoid

Linear
 CLAHE

Fusion
 CAD

Current MG Only

Setting	Description
Auto-Orient	[Unused]
Rotation	Select a degree of clockwise rotation.
Mirror	Select to switch the left and right breast view.
View	Select a zoom type.
Invert Sigmoid Linear CLAHE Fusion CAD Current MG Only	Select one or more processing functions to apply. Exempts the current cell from the Stack by View and Prior option.
CAD	Select to display CAD values according to the SR CAD settings when the user reaches this step of the hanging protocol.
LUT	Select an LUT to apply.
Bone Enhance	Select a percentage of bone enhancement.
Window/Level	Select Default or Custom. If Custom, type the values to apply.
Reprocess	Select to generate an additional view from the base view.