



DR Image Viewer System

DR Image Viewer

Operation Manual

Before using the instrument, be sure to read this manual thoroughly.
Keep the manual where it is easily accessible.

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Contents

1. Introduction	1
1.1 What is the DR Image Viewer System	1
1.2 Using the DR Image Viewer	2
1.3 DR Image Viewer Configuration	3
2. Starting/Exiting the DR Image Viewer.....	5
2.1 Starting the DR Image Viewer	5
2.2 Display Modes	8
2.2.1 Worklist Display mode	8
2.2.2 Image Display mode	9
2.3 Changing the Connection Server	10
2.4 Starting the system administrator	11
2.5 Displaying Version Information	12
2.6 Exiting the DR Image Viewer	13
3. Worklist Display Mode Operations.....	15
3.1 Worklist Display Mode	15
3.1.1 Group tab and Patient tab	15
3.1.2 Selecting information	16
3.1.3 Changing the list display order	16
3.2 Worklist Toolbar	17
3.2.1 Worklist tool functions	17
3.2.2 Toolbar display settings	18
3.3 Display Settings (Patient Tab)	19
3.3.1 Grouping information about a single patient	19
3.3.2 Auto-updating the list	19
3.3.3 Hiding patient information	20
3.4 Searching Studies	21
3.4.1 Searching in Group tab	21
3.4.2 Searching in Patient tab	22
3.4.2.1 Searching in Standard mode (Study Information)	22
3.4.2.2 Searching in Extension mode (patient data)	25
3.5 Outputting to a Printer	27
3.5.1 Outputting to Printer	27
3.5.2 Print task operations	29
3.6 Output to Storage	30
3.6.1 Outputting to storage	30
3.6.2 Storage task operations	32
3.7 Saving Images	33
3.8 Saving images using the DICOMDIR format	36
3.9 Showing and Outputting Reports	39
3.9.1 Showing Report	39
3.9.2 Outputting reports	40

4. Setting Worklist Display Mode	43
4.1 Setting and Changing the Display Items (Columns) in List	43
4.2 Setting the Font	45
4.3 Setting the Toolbar Size	46
4.4 Setting Prefetch	47
4.5 Setting the Print Annotation	48
4.6 Setting the Log	50
4.6.1 Setting Events	50
4.6.2 Record Setting	51
4.7 Setting Options	52
4.7.1 DICOM Printer Setting	52
4.7.1.1 Registering the printer	52
4.7.1.2 Deleting Printers	54
4.7.1.3 Changing the print settings	55
4.7.2 DICOM Storage Setting	56
4.7.2.1 Registering the storage	56
4.7.2.2 Deleting the storage	58
4.7.2.3 Changing the storage settings	59
4.7.3 Report Setting	61
4.7.4 Object Save Setting	63
4.8 System Setting	65
5. Displaying Images (Image Display Mode)	67
5.1 View Images	67
5.2 Displaying Toolbars	69
5.2.1 Patient toolbar and study toolbar	69
5.2.2 Displaying tools	70
5.2.3 Changing tool display settings	70
5.2.4 Changing the tool position	70
5.3 Selecting Patients and Studies (Patient tool)	71
5.4 Selecting Studies and Images (Study Tool)	72
5.5 Displaying Multiple Images	73
5.5.1 Displaying images using the Study Multi-format tool	73
5.5.1.1 Displaying multiple images in study units	73
5.5.1.2 Multi-image display and the Pin tool	74
5.5.2 Displaying images using the Image Multi-format tool	75
5.6 Displaying Images Automatically (Auto Display tool)	76
5.7 Making Selections from the Menu Bar	77
5.7.1 Displaying the status bar	77
5.7.2 DICOM Attributes Information	77
5.8 Context Menu	78
6. Using the Utility Tool	79
6.1 Utility Tool	79
6.2 Magnify the Image	80
6.3 Pan the Image	81

6.4 Change the Window Width/Window Level (WW/WL)	82
6.4.1 Changing Window Width/Window Level (WW/WL)	82
6.4.2 Effect on output of changes to WW/WL	83
6.5 Full Window	84
6.6 Pixel to Pixel Display	85
6.7 Report Tool	86
6.8 Selecting Functions from the Menu Bar	87
6.8.1 Zoom	87
6.8.2 Image Flip	88
6.8.3 Image Rotation	88
6.8.4 Grayscale Inversion	88
7. Output in Image Display Mode	89
7.1 Outputting to Printer	89
7.2 Checking the Output Status of the Printer	94
7.3 Saving to a Local Folder	95
7.4 Outputting to Storage	98
7.5 Saving BMP/JPG Images	99
7.6 Windows Print	100
7.6.1 Windows Print Preview	100
7.6.2 Windows Print	101
7.7 Copy to Clipboard	102
8. Manipulating objects	103
8.1 Share and Save Settings	103
8.2 Displaying Objects	104
8.2.1 Display Object window	104
8.2.2 Display Object in Current Image window	104
8.3 Inputting and Deleting Objects	105
8.3.1 Object settings	105
8.3.2 Inputting objects	105
8.3.3 Saving the object state	105
8.3.4 Deleting objects	106
8.3.4.1 Selecting objects for deletion	106
8.3.4.2 Deleting all objects	106
8.4 Outputting Objects	107
8.5 Object Tool	108
8.5.1 Measure distance	109
8.5.2 Arrow	109
8.5.3 Text	110
8.5.4 Measure angle	110
8.5.5 Rectangle	111
8.5.6 Cover Rectangle	111
8.5.7 Ellipse	112
8.5.8 Polygon	112
8.5.9 Detect CTR	113

8.5.10 Measure Cobb-Angle	114
8.5.11 Height Difference	115
8.5.12 Profile	116
8.5.13 Statistics	117
8.5.14 Length Calibration	118
8.5.15 Display object	118
8.6 Default X-ray Magnification	119
9. Report and Detail Examination	121
9.1 Setting Report Input	121
9.2 Report Input Mode	122
9.3 Entering Reports	123
9.3.1 Entering report using the pull-down menu	123
9.3.2 Entering report using the Report Input window	125
9.4 Deleting Reports	127
9.5 Browsing Reports	128
9.5.1 Browsing from the Report Input window	128
9.5.2 Browsing from the Show Report window	129
9.6 Detail Examination	130
10. Setting Image Display Mode	131
10.1 Setting the Object Font	131
10.2 Setting the Text Font	132
10.3 Making Toolbar Settings	133
10.3.1 Setting the Toolbar Size	133
10.3.2 Making button display settings	134
10.4 Setting the Line Format	135
10.5 Setting the Annotation	136
10.6 Image Display	138
10.7 Monitor Gamma Correction	140
10.7.1 Images without P-values	140
10.7.2 Images with P-values	142
10.8 Setting the Study Order	144
10.9 Setting Double-Click Behavior	145
10.10 Making Print Object Settings	146
10.10.1 Setting the Object Font	146
10.10.2 Setting the line format	147
10.11 Setting the storage drawn objects	149
10.11.1 Setting the Object Font	149
10.11.2 Setting the line format	150
11. Error Messages	151
12. Browsing the Event Viewer	153
12.1 Displaying Event Viewer	153

12.1.1 Displaying the Event Viewer	153
12.1.2 Selecting the event to display	153
12.1.3 Setting the font	154
12.2 Event Operations	155
12.2.1 Viewing Event Details	155
12.2.2 Deleting All Events	155
12.2.3 Deleting the selected events	156
12.3 Displaying Version Information	157
A. Stitch	161
A.1 About the Stitch Function	161
A.1.1 What is the Stitch function?	161
A.1.2 About tool operations	161
A.2 Overlapping Images	162
A.2.1 Positioning images	162
A.2.2 Aligning the Image Positions	164
A.2.2.1 Before aligning the image positions	164
A.2.2.2 Auto Alignment	165
A.2.2.3 Manual Alignment	166
A.2.3 Closing the Stitch window	166
A.3 Adjusting Images (Image Adjust Tool)	167
A.3.1 Rotating the image (Free rotation)	168
A.3.2 Cropping the image	168
A.3.3 Changing the density	169
A.3.4 Enhancing the edges	169
A.4 Changing Image Display Properties (Display Adjust Tool)	170
A.5 Inputting Objects (Measure Tool)	171
A.6 Outputting Images	172
A.6.1 Outputting to a printer	172
A.6.2 Output to storage	173
A.6.3 Outputting images to a local folder	174
A.6.4 Windows Print	175
A.6.4.1 Opening the Preview window	175
A.6.4.2 Windows Print	176
A.7 Context Menu	177
A.7.1 Menus in Alignment mode	177
A.7.2 Menus in Fix mode	178
B. Implant Matching	181
B.1 About Implant Matching	181
B.1.1 About tool operations	181
B.2 Positioning a Template	182
B.2.1 Reading a template file	182
B.2.2 Positioning a template	185
B.2.2.1 Before positioning a template	185
B.2.2.2 Positioning a template	185
B.2.2.3 Reading template parameter	189

B.2.3 Closing the Implant window	189
B.3 Adjusting Images (Image Adjust Tool)	190
B.3.1 Rotating the image (Free rotation)	191
B.3.2 Cropping the image	191
B.3.3 Changing the density	192
B.4 Changing Image Display Properties (Display Adjust Tool)	193
B.5 Inputting Objects (Measure Tool)	194
B.5.1 Measure Diameter	194
B.6 Outputting Images	195
B.6.1 Outputting to a printer	195
B.6.2 Outputting images to a storage	196
B.6.3 Outputting images to a local folder	197
B.6.4 Windows Print	198
B.6.4.1 Opening the Preview window	198
B.6.4.2 Outputting to a local printer	199
B.7 Context Menu	200
B.7.1 Menus in Alignment mode	200
B.7.2 Menus in Fix mode	201
B.8 Template Reader Version Information	202
C. DICOM Query/Retrieve	205
C.1 Starting DICOM Protocol Image Receiver	205
C.2 Getting Images from Another Server	207
D. DR Image Viewer Light	213
D.1 About DR Image Viewer Light	213
D.2 Saving a Copy of DR Image Viewer Light	214
Index	215

Before Operation

To ensure correct operation of the DR Image Viewer System, be sure that you fully understand the following points.

1. Database Size

The size of the database is limited to 4 GB due to the usage of the Microsoft SQL Server 2005 Express Edition.

2. Monitor Gamma Correction

When using the DR Image Viewer for the first time, display an image in Image Display Mode (→ 67P.), and adjust the appearance of the image by referring to section 10.7 Monitor Gamma Correction (→ 140P.).

Gamma correction of the monitor should be performed on a regular basis.

Notation

Notation 1

Button names are indicated by [].

Notation example: Click [OK].

Notation 2

Available options in the taskbar or menu bar are indicated by [], and when options are selected in submenus, the order of selection is indicated by >.

Notation example: Either double-click the System Manager icon on the desktop, or click the commands from the taskbar in the following order.

[Start] > [All Programs] > [Canon Medical] > [DR Image Viewer] > [DR Image Viewer]

Notation 3

For check boxes, ☒ indicates a checked option, and ☐ indicates an unchecked option.

Notation example: Check the Extension Search Conditions.

Notation 4

For radio buttons, ☒ indicates a selected option, and ☐ indicates an unselected option.

Notation example: Select Do not compress or Lossless.

Notation 5

If an operating procedure or description continues from an odd-numbered page to an even-numbered page, "Continued on the following page >>" is written at the bottom right of the odd-numbered page.

Notation 6

If a detailed explanation for the operation or setting is available on another page, the notation (→ page number) is used to refer to this page.

However, if the information is provided in the DR Image Server Operation Manual, please refer to the separate DR Image Server Operation Manual.

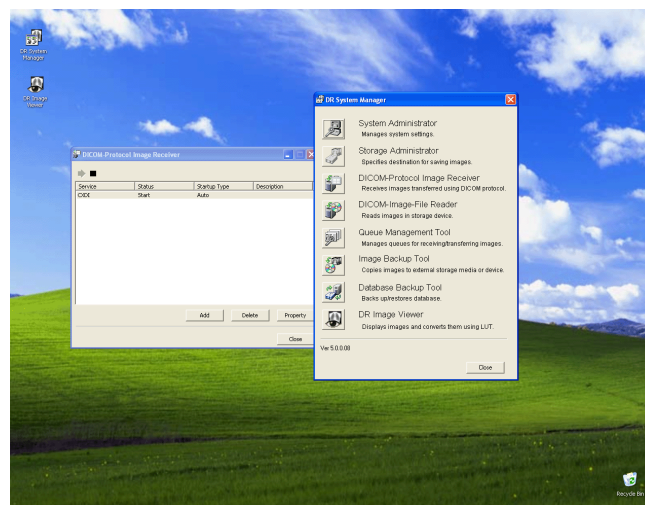
Notation example: After logging in correctly, the System Information window opens, based on the System Setting values (→ DR Image Server Operation Manual).

1. Introduction

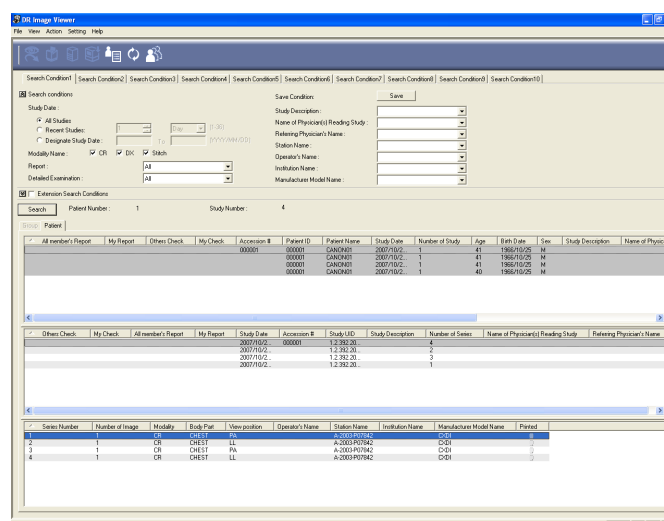
1.1 What is the DR Image Viewer System

The DR Image Viewer System is a software package for storing and displaying images captured using a Canon CXDI digital radiography system (simply called “CXDI” below). The software package comprises image server and image viewer components. The image server is called the DR Image Server, and the image viewer is called the DR Image Viewer.

The figures below show examples of windows for the DR Image Server (DICOM Protocol Image Receiver) and DR Image Viewer (Patient Tab).



DR Image Server (DICOM Protocol Image Receiver)

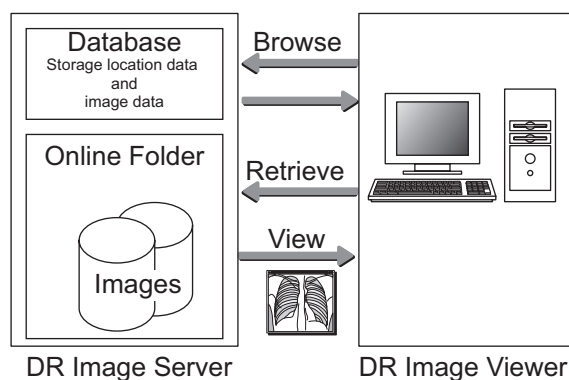


DR Image Viewer (Patient Tab)

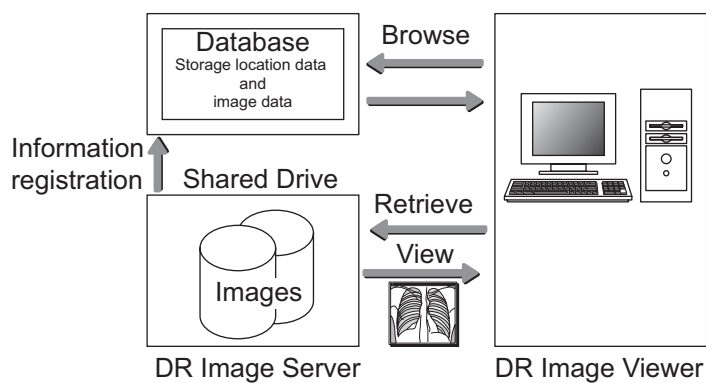
1.2 Using the DR Image Viewer

The DR Image Viewer allows you to browse the DR Image Server database and view images from the DR Image Server online folders and shared drives on the network.

For details about the DR Image Server, see the DR Image Server Operation Manual.



Displaying images from the online folders of the DR Image Server



Displaying images from shared drives on the network

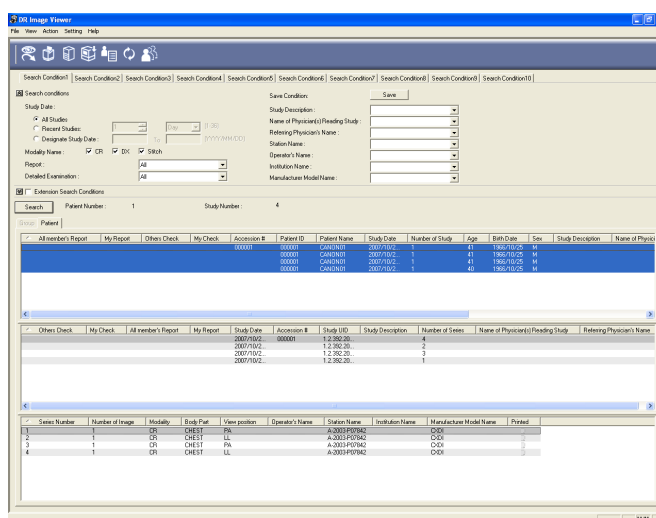
1.3 DR Image Viewer Configuration

The DR Image Viewer consists of the DR Image Viewer, DR Event Viewer and Template Reader.

DR Image Viewer

Two modes are available – **Worklist Display mode** for viewing databases in the DR Image Server and **Image Display mode** for viewing images selected from the worklist.

In this manual, chapters 3 to 4 describe the Worklist Display mode, and chapters 5 to 10 describe the Image Display mode.



Worklist Display mode

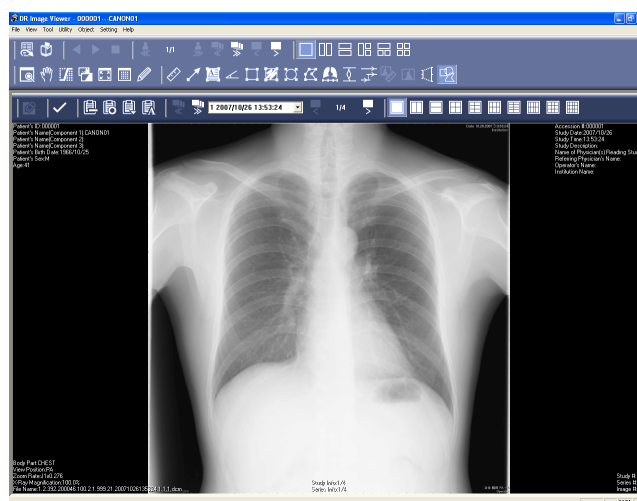
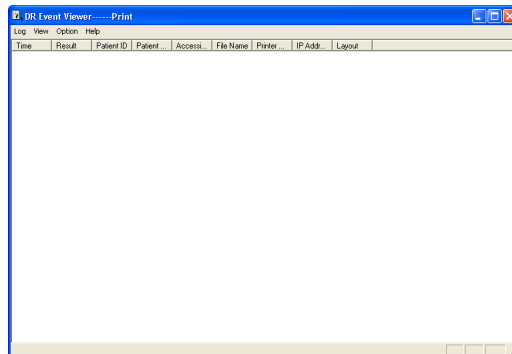


Image Display mode

DR Event Viewer (→ 153P.)

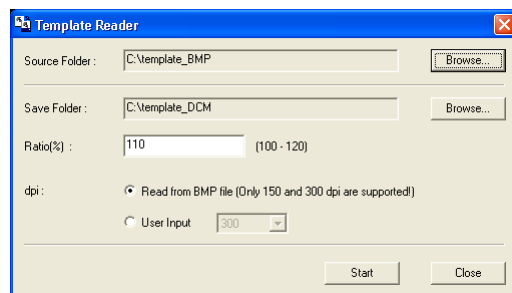
The output results to the printer and storage medium are displayed.



DR Event Viewer

Template Reader (→ 181P.)

Reads a template to be used for Implant Matching.



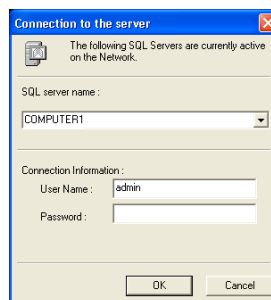
Template Reader

2. Starting/Exiting the DR Image Viewer

2.1 Starting the DR Image Viewer

Use the following procedure to start the DR Image Viewer.

- 1 Open the Connection to the server window.
Either double-click the DR Image Viewer icon on the desktop, or click the commands from the taskbar in the following order.
[Start] > [All Programs] > [Canon Medical] > [DR Image Viewer] > [DR Image Viewer]



Connection to the server window

- 2 Select the server, and then enter the user name and password.
Either click ▼ to select the server, or enter the server name, and then enter the User Name and Password.
The entered password is indicated by *.



Passwords

Be careful not to forget or tell others your password.

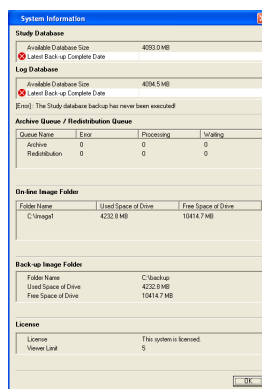
Continued on the following page >>

3 Log into the server.

Click [OK] in the Connection to the server window.

After logging in correctly, the System Information window opens, based on the System Setting values (→ DR Image Server Operation Manual).

When starting the software for the first time, information about the On-line Image Folder and Back-up Image Folder is not displayed.



System Information window



Concerning the displays which appear when errors occur

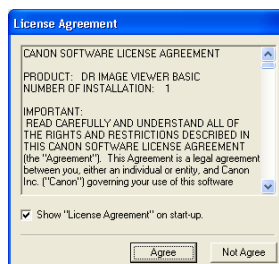
If system information is erroneous, the Warning window opens to display the following message: "There is the error information in System Information."
Click [OK] to close the Warning window and read the details in the System Information window.

A flashing icon appears at the item with the error.

4

Open the License Agreement window.

Click [OK] in the System Information window.



License Agreement window

The License Agreement window is displayed when you start the DR Image Viewer. If you uncheck Show "License Agreement" on start-up and click [Agree], the License Agreement window will not be displayed when the DR Image Viewer is started subsequently.

If display at startup is turned off, you may display the License Agreement window when in Worklist Display mode or Image Display mode by clicking [Help] > [License Agreement...] on the menu bar.



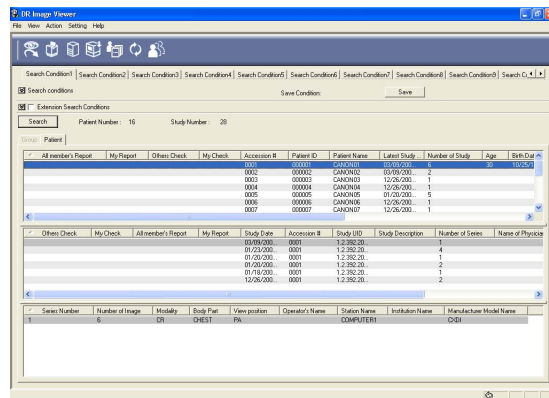
Operations in the DR System Manager window

The License Agreement window can be opened by clicking [DR Image Viewer] in the DR System Manager window.

5

Open the DR Image Viewer.

Click [OK] in the License Agreement window.



DR Image Viewer

2.2 Display Modes

The DR Image Viewer can change the view for usage in two modes – Worklist Display mode and Image Display mode.

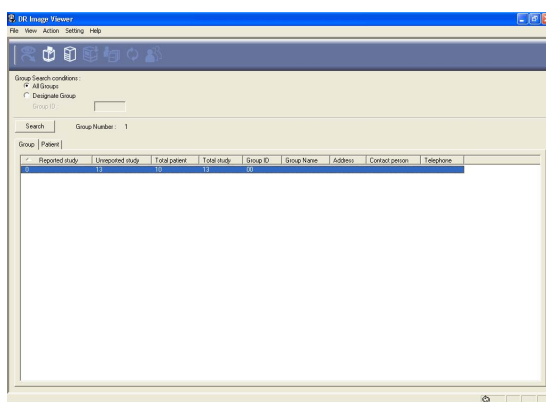
The Worklist Display mode enables to browse patient data in a list, and the Image Display mode enables to browse patient images selected in the Worklist Display mode.

2.2.1 Worklist Display mode

In Worklist Display mode, you can select between the Group and Patient tabs.

Group tab

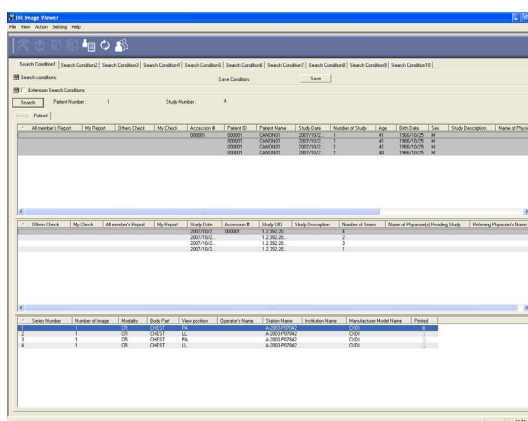
Information is displayed in group ID units, according to the DR image server settings.



Group tab

Patient tab

Patient information is displayed in detail.



Patient tab



Upgrading the software

When DR Image Viewer is upgraded from version 3 to a newer version, the toolbar may be displayed at a larger size following the upgrade.

In this case, the size of the toolbar can be adjusted by following the instructions in section 4.3 Setting the Toolbar Size (→ 46P.).

2.2.2 Image Display mode

Images associated with the patient selected on the Patient tab are displayed.

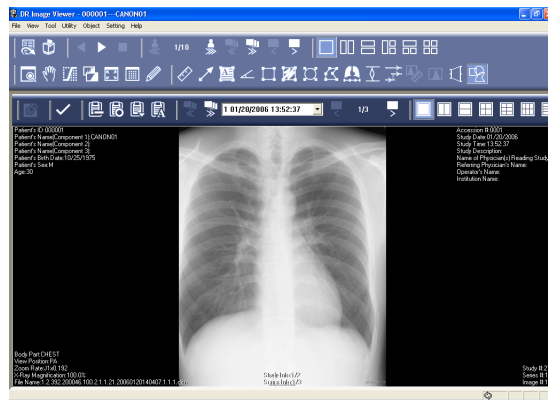


Image Display mode



MEMO

Upgrading the software

When DR Image Viewer is upgraded from version 3 to a newer version, the toolbar may be displayed at a larger size following the upgrade. In this case, the size of the toolbar can be adjusted by following the instructions in section 10.3.1 Setting the Toolbar Size (→ 133P.).

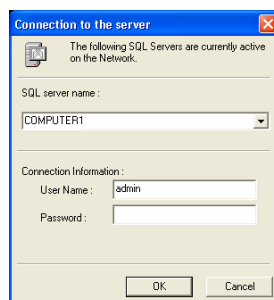
2.3 Changing the Connection Server

If more than one DR image server is available, you can change the connection server.

1

Open the Connection to the server window.

In the DR Image Viewer, click the commands from the menu bar in the following order.
[File] > [Connection to the server...]



Connection to the server window

2

Select the server, and then enter the user name and password.

Either click ▼ to select the server, or enter the server name, and then enter the User Name and Password.

The entered password is indicated by *.



Passwords

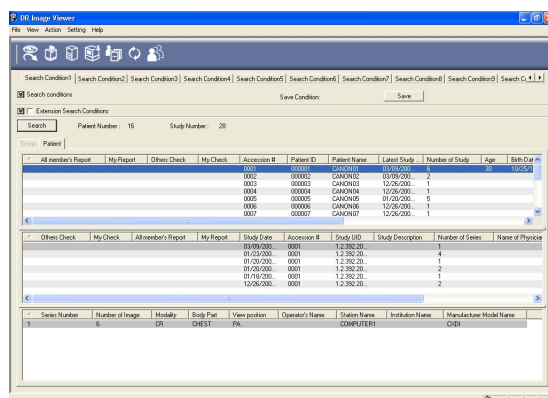
Be careful not to forget or tell others your password.

3

Log into the server.

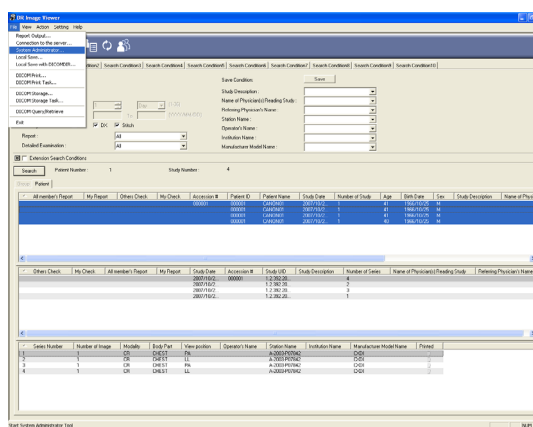
Click [OK] in the Connection to the server window.

A work list opens to show the result of referencing the selected server database.



2.4 Starting the system administrator

The system administrator can be started from the DR Image Viewer.



Starting the system administrator from the file menu

In the worklist display mode, click the commands from the menu bar in the following order.

[File] > [System Administrator...]

The system administrator login screen is now displayed.

2.5 Displaying Version Information

In the DR Image Viewer, click the commands from the menu bar in the following order.

[Help] > [About...]

Version information can be displayed when in Worklist Display mode or Image Display mode.



Version Information window

2.6 Exiting the DR Image Viewer

Either click  at the top right of the window or click the commands from the menu bar in the following order.

[File] > [Exit]

The current Worklist Display mode is saved, and then the DR Image Viewer is closed.

3. Worklist Display Mode Operations

3.1 Worklist Display Mode

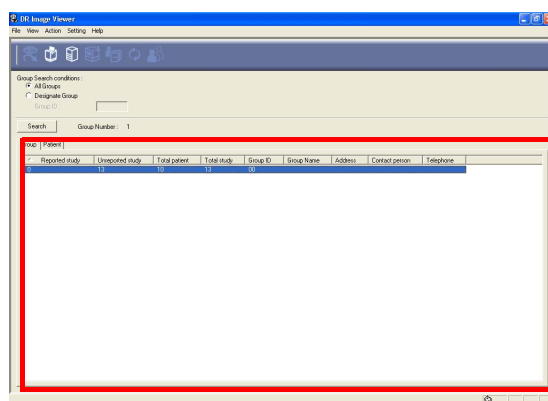
3.1.1 Group tab and Patient tab

Group tab

Using the group ID setting function of the DR Image Server (→ DR Image Server Operation Manual), patient information can be organized into groups and displayed according to classification.

The Group tab is selected automatically at program startup if group ID settings have been made using the DR Image Server. The Group tab cannot be selected if no group ID settings have been made.

Double-clicking on the displayed information brings up the Patient tab.



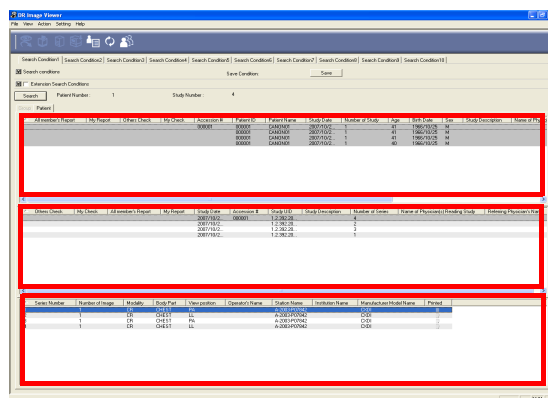
Group list

Group tab

Patient tab

From top to bottom, the three lists are called the Main Study list, the Study list, and the Series list.

If the Group tab is available, information for the patients in the selected group is displayed. Double-clicking the displayed information in the Main study list or Study list launches the Image Display mode.



Main Study List

Study List

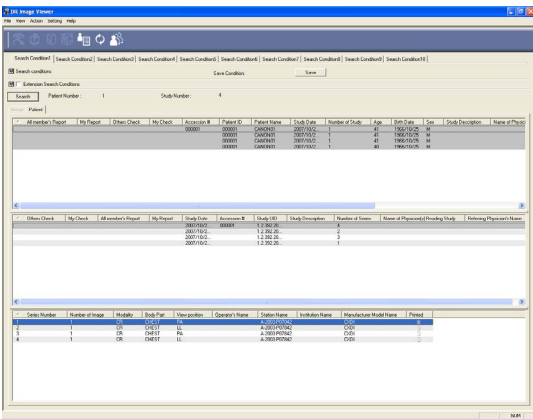
Series List

Patient tab

3.1.2 Selecting information

Note: It is possible to select up to 10 groups on the Group tab before switching to the Patient tab.

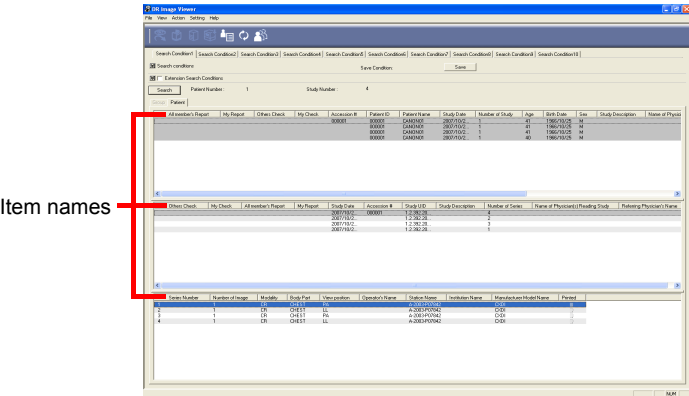
Clicking an information item in a list causes it to be highlighted in blue.
To select multiple information items, do the following.



Operation	Procedure
Selecting multiple items	While holding down the Ctrl key, click the desired information items.
Selecting a range of items	While holding down the Shift key, click the first and last information items in the range.
Selecting all items	Either press the A key while holding down the Ctrl key or click the commands from the menu bar in the following order. [Action] > [Select All]

3.1.3 Changing the list display order

To change the list display order, click one of the item names in the desired list.
It is also possible to drag the edges of the item names to change the display column width.



3.2 Worklist Toolbar

Frequently used menus in Worklist Display mode can be added to the toolbar in the top section of the window as the Tool button.



Worklist Toolbar

3.2.1 Worklist tool functions

Seven tool buttons are displayed in the toolbar. All buttons can be used when the Patient tab is selected, but only the DICOM Print and DICOM Storage buttons can be used when the Group tab is selected.

Button	Button name	Function
	View Images	Launches the Image Display mode. The same operation can be performed by pressing the space key on the keyboard.
	DICOM Print	Opens the DICOM Print window so you can output the image to the printer (→ 27P.).
	DICOM Storage	Opens the DICOM Storage window so you can output the image to storage (→ 30P.).
	Local Save	Opens the Local Save window so you can save the image to a local folder (→ 33P.).
	Unite/ Separate	Switches between display of a single combined information listing (unite) and display of separate information listings (separate) when multiple sets of patient data are associated with a single patient ID (→ 19P.).
	Start/Stop auto refresh	Allows automatic updating of the list display (→ 19P.).
	Show/Hide unselected patient	Switches display of information on patients other than the selected patient on and off (→ 20P.).

3.2.2 Toolbar display settings

It is possible to switch display of the toolbar on and off, change its size, and turn the floating display mode on and off.

Operation	Procedure
Display on/off selection	Click the commands from the menu bar in the following order. [View] > [Worklist Tool]
Changing the size	Click the commands from the menu bar in the following order. [Setting] > [Tool Size...] The Tool size window (→ 46P.) opens, and the size can be changed from 50 to 400(%).
Floating display	Drag or double-click the on the left. To cancel the floating display mode, double-click the title bar (the area with Worklist Tool displayed on it) at the top of the window.

3.3 Display Settings (Patient Tab)

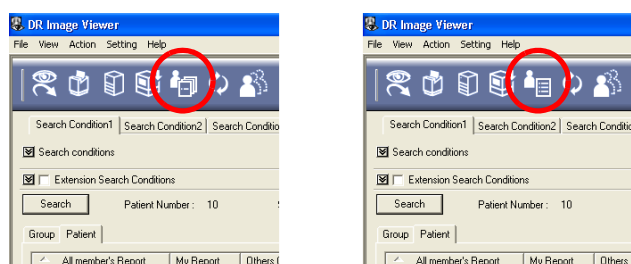
It is possible to specify the way lists are displayed on the Patient tab.

3.3.1 Grouping information about a single patient

It is possible to display information on the Patient tab in patient units by grouping together multiple instances of the same patient ID in the Main Study list.

To switch this setting, either click the Unite Studies of the Identical Patient button on the toolbar or click the commands from the menu bar in the following order.

[View] > [Unite Studies of the Identical Patient]

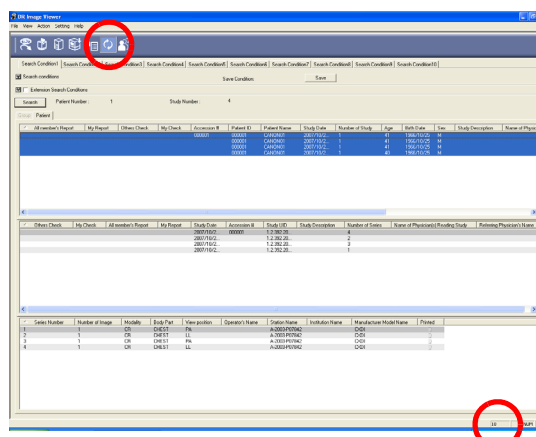


Button display when enabled (left) and when disabled (right)

3.3.2 Auto-updating the list

When the Start/Stop auto refresh button on the toolbar is clicked, auto-update starts and the amount of time the update will take is displayed in the lower right corner of the window.

See 4.8 System Setting (→ 65P.) for information on the auto-update time setting.

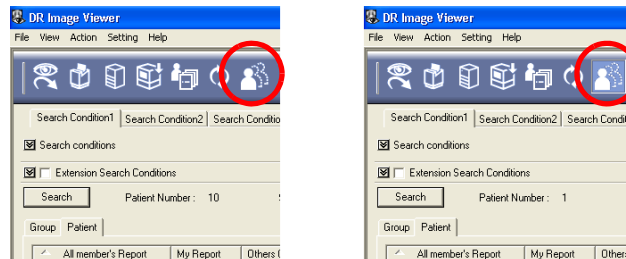


Auto-update

3.3.3 Hiding patient information

Clicking (enabling) the Show/Hide unselected patient button on the toolbar will hide display in the various lists of information for patients other than the patients selected on the Main Study list.

Click the Show/Hide unselected patient button to switch the display setting.



Button display when disabled (left) and when enabled (right)

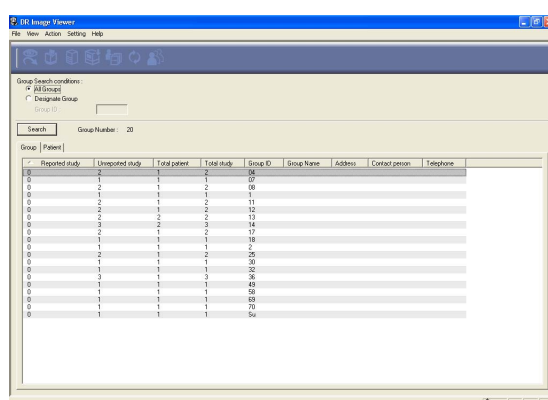
3.4 Searching Studies

You can search for group IDs in the Group tab and search for patient data in the Patient tab. Detailed searches are also performed by selecting the Extension Search Conditions option in the Patient tab.

3.4.1 Searching in Group tab

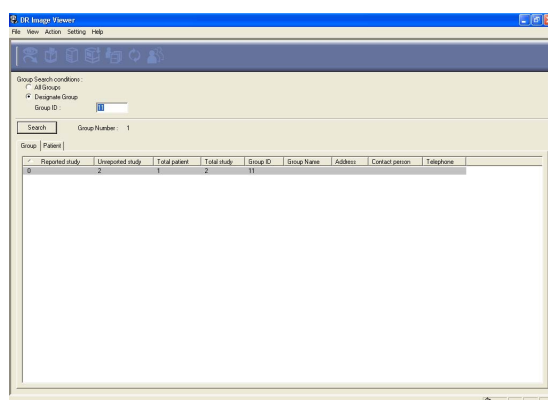
To search for a group ID from the Group tab:

- 1 Click the Group tab.
Click the Group tab in the Worklist Display mode.



Group tab

- 2 Enter search conditions.
Select Designate Group and enter search conditions in group ID.
- 3 Start the search.
Click [Search]. Group IDs that partially match the search conditions are displayed.



Search Results



Displaying all groups

To display all groups again after performing a search, select all groups and then click [Search].

3.4.2 Searching in Patient tab

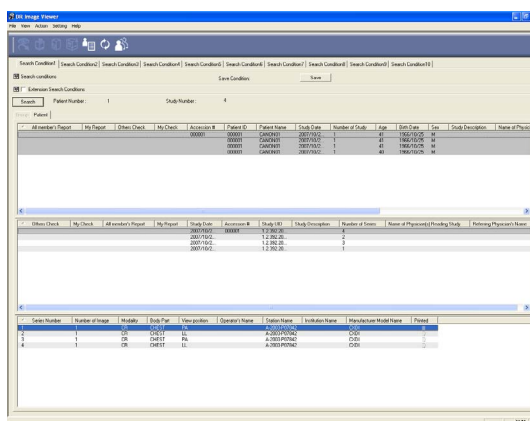
In the Patient tab, you can set detailed search conditions and store ten types of settings in Search Condition 1 tab to Search Condition 10 tab.

This section describes how to select and store search condition settings.

3.4.2.1 Searching in Standard mode (Study Information)

In the Standard mode, studies are searched according to the patient information.

- 1 Display the search conditions.
Click the ☒ button to the left of Search conditions.



Standard mode

- 2 Select the Search Condition tab.
Click one of Search Condition 1 tab to Search Condition 10 tab.
- 3 Enter or select the search conditions.

Search Conditions		Setting Description
Study Date	All studies	All studies are subjected to search.
	Recent Studies	Designate the search range starting at today. Click ▼ then select Day, Week, or Month, and then click ▼ or ▲, and set in the range from 1 to 36.
	Designate Study Date	Enter the search start date in the left box, and enter the search end date in the right box in the format YYYY, YYYY/MM, or YYYY/MM/DD. The order of the dates will differ depending on the setting value under System Setting (→ DR Image Server Operation Manual). In the search start date, YYYY is used for January 1 of the year YYYY, and YYYY/MM is used for the first day of the month MM in the year YYYY. In the search end date, YYYY is used for December 31 of the year YYYY, and YYYY/MM is used for the last day (28th, 29th, 30th, or 31st) of the month MM in the year YYYY.

Search Conditions	Setting Description	
Modality Name	Check the modality name to be searched. “Stitch” is not a modality but it refers to the image created with the stitch function.	
Report	Click ▼, and then select the desired search condition.	
	All	Information is displayed for all patients.
	Any Reported	Information is displayed for patients with reports input.
	Not Reported	Information is displayed for patients with no report input.
	My Reported	Information is displayed for patients with reports input by you.
	Only Others Reported	Information is displayed for patients with reports input by users other than you.
Detailed Examination	Click ▼, and then select the desired search condition.	
	All	Information is displayed for all patients.
	My Checked	Information is displayed for patients with a check input by you. Information for patients with a check input by a user other than you is included.
	Only My Checked	Information is displayed for patients with a check input only by you. Information for patients with a check input by a user other than you is not included.
	Others Checked	Information is displayed for patients with a check input by a user other than you. Information for patients with a check input by you is included.
	Only Others Checked	Information for patients with a check input only by a user other than you is displayed. Information for patients with a check input by you is not included.
	My & Others Checked	Information is displayed for patients with a check input by you and by a user other than you. Check inputs from both you and another user are necessary to display this patient information.
	Any Checked	Information is displayed for patients with a check input.
	Not Checked	Information is displayed for patients with no check input.

Continued on the following page >>

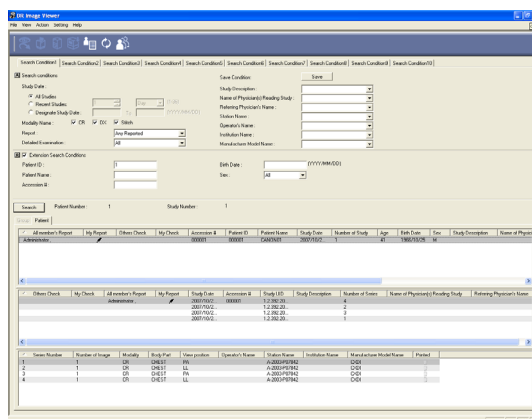
3. Worklist Display Mode Operations

Search Conditions	Setting Description
Study Description	Enter the character string to search for or click ▼ to select the stored character string. The characters *(character string) and ? (single character) may be used as wildcards. If left blank, these conditions match all studies. The input character strings are saved automatically when a search is executed.
Name of Physician(s) Reading Study	
Referring Physician's Name	
Station Name	
Operator's Name	
Institution Name	
Manufacturer Model Name	

4

Start the search.

Click [Search]. The lists of information matching the search conditions are displayed.



Search Result



Displaying all studies

To display all studies again after performing a search, select the **All Studies** in the standard mode while the **Extension Search Conditions** is unchecked in the extension mode, and then click [Search].

5

Change the name of the Search Condition tab.

Double-click the selected Search Condition tab and enter a new tab name.

6

Save the search conditions.

Click [Save].

If you select another tab without saving first, the search conditions are not saved.

3.4.2.2 Searching in Extension mode (patient data)

In Extension mode, patient data can be added to the search conditions.

Combining the patient data with the study information allows you to conduct more detailed search.

1

The extension search conditions are displayed.

Click the ☒ button to the left of Extension Search Conditions.

2

Extend search conditions.

Check the Extension Search Conditions.

3

Enter or select the search conditions.

If left blank, all studies are subjected to search. Also, the characters * (character string) and ? (single character) can be used as wild cards for the Patient ID, Patient Name, and Accession Number in the extension search conditions.

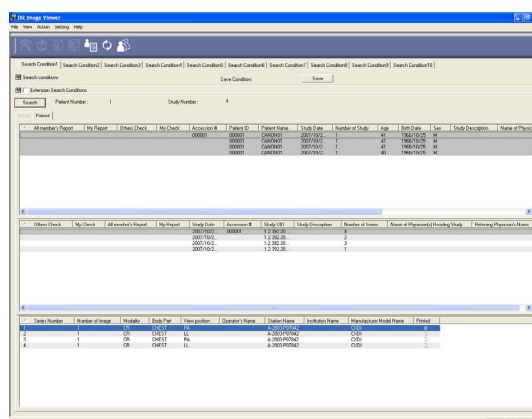
Extension Search Conditions	Setting Description
Patient ID	Enter using 64 characters or less.
Patient Name	Enter using 64 characters or less.
Accession #	Enter using 16 characters or less.
Birth Date	Enter using the format YYYY/MM/DD, YYYY/MM, or YYYY. The order of the dates will differ depending on the setting value under System Setting (→ DR Image Server Operation Manual).
Sex	Click ☐ , and the select All, Female, Male, or Other.

4

Start the search.

Click [Search].

The lists of information matching the search conditions are displayed.



Continued on the following page >>



Displaying all studies

To display all studies again after performing a search, select the **All Studies** in the standard mode while the **Extension Search Conditions** is unchecked in the extension mode, and then click **[Search]**.

5

Change the name of the Search Condition tab.

Double-click the selected Search Condition tab and enter a new tab name.

6

Save the search conditions.

Click **[Save]**.

If you select another tab without saving first, the search conditions are not saved.

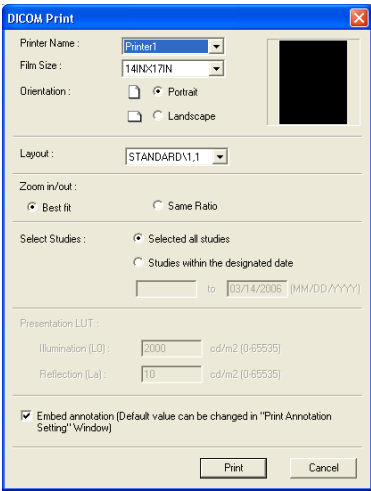
3.5 Outputting to a Printer

Note: Before outputting an image to the printer, refer to 4.7.1 DICOM Printer Setting (→ 52P.) and enter the printer settings.

Images are output to the DICOM printer in group or patient units.
Images can be output using either the Group tab or Patient tab.

3.5.1 Outputting to Printer

- 1 Select the group or patient.
To select multiple groups or patients, use the procedure described in 3.1.2 Selecting information (→ 16P.). When multiple items are selected, they are output in the order in which they appear on the list, from top to bottom. See 3.1.3 Changing the list display order (→ 16P.) for how to change the order in which items are displayed.
- 2 Open the DICOM Print window.
Either click the DICOM Print button , or click the commands from the menu bar in the following order.
[File] > [DICOM Print...]



DICOM Print window

- 3 Set parameters.
If no selection is made for **Studies within the designated date**, all images matching the selected patient or group are output.

Option name	Function
Printer Name	Click  , and then select a printer from the list.
Film Size	Click  , and then select a film size from the list. Please note that the film size selected here is not stored when the software is started the next time.
Orientation	Select either Portrait or Landscape .

Continued on the following page >>

Option name		Function
Layout		Click  , and then select a layout from the list. The selected layout is displayed at the top right.
Zoom in/out	Best Fit	The entire image is resized to fit the page and printed.
	Same Ratio	Print at the same magnification ratio set as fix ratio (→ 53P.).
Select Studies	Selected all studies	Output all images contained in the selected information.
	Studies within the designated date	Outputs only the images between the specified search start date and the search end date. Enter the search start date in the left box, and enter the search end date in the right box in the format YYYY, YYYY/MM, or YYYY/MM/DD. In the search start date, YYYY is used for January 1 of the year YYYY, and YYYY/MM is used for the first day of the month MM in the year YYYY. In the search end date, YYYY is used for December 31 of the year YYYY, and YYYY/MM is used for the last day (28th, 29th, 30th, or 31st) of the month MM in the year YYYY.
Presentation LUT		If -Q has been input as a print parameter under DICOM Printer Setting, specify settings for Illumination and Reflection.
Embed annotation (Default value can be changed in "Print Annotation Setting" window)		If this option is checked, the image is printed with the annotation (→ 48P.) embedded. Although annotation is embedded in the print data, it is not superimposed on the image itself.

4

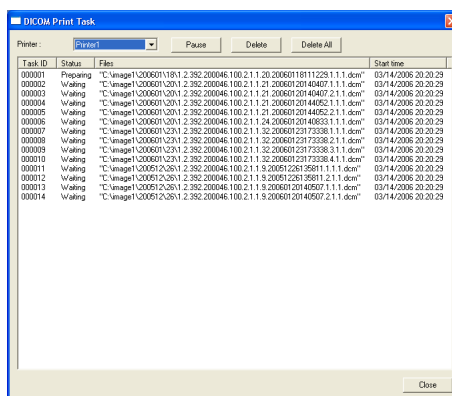
Start printing.

Click [Print].

When printing is initiated, an icon appears in the **Printed** item field on the series list.

3.5.2 Print task operations

- 1 Open the DICOM Print Task window.
Click the commands from the menu bar in the following order.
[File] > [DICOM Print Task...]



DICOM Print Task window

- 2 Select the printer.
Click ▾, and then select a printer from the list.
The output status of the task can be checked in the **Status** column.

Status	Description
Waiting	The image is waiting for output.
Preparing	The image is being processed for output.
Printing	The image is being output.

- 3 Operate the print task.
To operate a print task that is in waiting, click the task, and then click the desired operation button. It is not possible to perform an operation on the task that is currently printing.

Button name	Function
[Pause]	When clicked, the button changes to the depressed state and processing is paused. To restart, click the button again.
[Delete]	The selected task is deleted.
[Delete All]	This deletes all tasks.

3.6 Output to Storage

Note: Before outputting an image, refer to 4.7.2 DICOM Storage Setting (→ 56P.) and make the storage settings.

Images are output to the DICOM storage in group, patient, or study units.

Images can be output using either the Group tab or Patient tab.

3.6.1 Outputting to storage

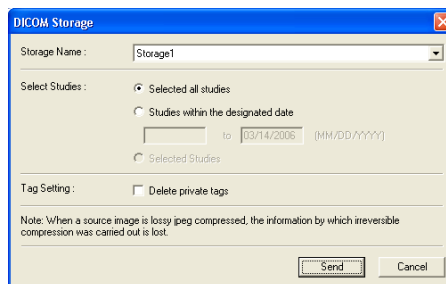
1 Select the group, patient, or study.

To select multiple groups or patients, use the procedure described in 3.1.2 Selecting information (→ 16P.). When multiple items are selected, they are output in the order in which they appear on the list, from top to bottom. See 3.1.3 Changing the list display order (→ 16P.) for how to change the order in which items are displayed.

2 Open the DICOM Storage window.

Either click the DICOM Storage button (📁), or click the commands from the menu bar in the following order.

[File] > [DICOM Storage...]



DICOM Storage window

3 Set parameters.

If no selection is made for **Designate Study Date**, all images matching the selected group, patient, or study are output.

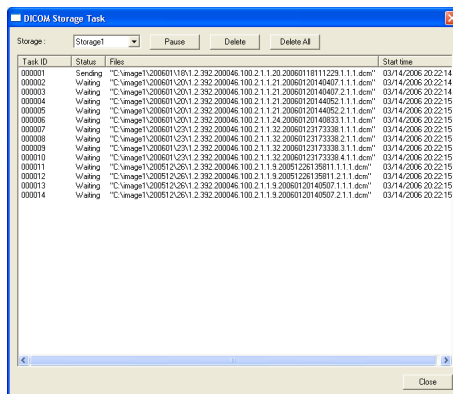
Option name		Function
Storage Name		Click  , and then select a storage from the list.
Select Studies	Selected all studies	All images contained in the selected information are output.
	Studies within the designated date	This outputs only the images between the specified search start date and the search end date. Enter the search start date in the left box, and enter the search end date in the right box in the format YYYY, YYYY/MM, or YYYY/MM/DD. In the search start date, YYYY is used for January 1 of the year YYYY, and YYYY/MM is used for the first day of the month MM in the year YYYY. In the search end date, YYYY is used for December 31 of the year YYYY, and YYYY/MM is used for the last day (28th, 29th, 30th, or 31st) of the month MM in the year YYYY.
	Selected Studies	All images contained in the selected studies are printed.
Tag Setting	Delete private tags	When the Delete Private Tags is checked, studies are transferred with the private tags deleted.

4 Start output to storage.

Click [Send].

3.6.2 Storage task operations

- 1 Open the DICOM Storage Task window.
Click the commands from the menu bar in the following order.
[File] > [DICOM Storage Task...]



DICOM Storage Task Window

- 2 Select the storage whose output status you want to check.
Click ▾, and then select a storage from the list.
The output status of the task can be checked in the **Status** column.

Status	Description
Waiting	The image is waiting for output.
Preparing	The image is being processed for output.
Sending	The image is being output.

- 3 Operate the storage task.
To operate a task that is in waiting, click the task, and then click the desired operation button.
It is not possible to perform an operation on the task that is currently printing.

Button name	Function
[Pause]	When clicked, the button changes to the depressed state and processing is paused. To restart, click the button again.
[Delete]	The selected task is deleted.
[Delete All]	This deletes all tasks.

3.7 Saving Images

The selected image is saved to the designated folder.

Images saving operation can only be performed in the Patient tab.

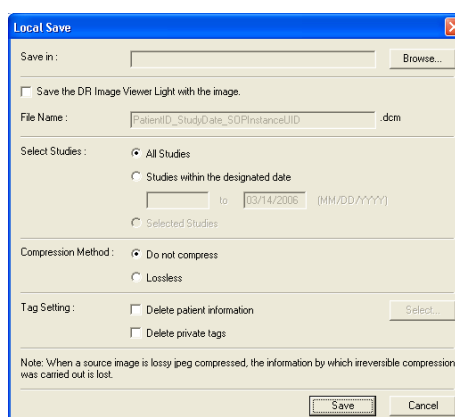
1 Select the patient or study.

To select multiple groups or patients, use the procedure described in 3.1.2 Selecting information (→ 16P.). When multiple items are selected, they are output in the order in which they appear on the list, from top to bottom. See 3.1.3 Changing the list display order (→ 16P.) for how to change the order in which items are displayed.

2 Open the Local Save window.

Either click the Local Save button  in the toolbar, or click the commands from the menu bar in the following order.

[File] > [Local Save...]



Local Save window

Option name	Function
Save in	Click [Browse...] to open the Browse for Folder window, and then select the folder where you want to save images.
Save the DR Image Viewer Light with image	If this option is checked, the DR Image Viewer Light executable file is stored in the storage destination.
File Name	The file name is assigned automatically. PatientID stands for patient ID, StudyDate for the study date, and SOPInstanceUID for the SOP Instance UID.

Option name		Function
Select Studies	All Studies	All images contained in the selected information are saved.
	Studies within the designated date	Only the images between the specified search start date and the search end date are saved. Enter the search start date in the left box, and enter the search end date in the right box in the format YYYY, YYYY/MM, or YYYY/MM/DD. In the search start date, YYYY is used for January 1 of the year YYYY, and YYYY/MM is used for the first day of the month MM in the year YYYY. In the search end date, YYYY is used for December 31 of the year YYYY, and YYYY/MM is used for the last day (28th, 29th, 30th, or 31st) of the month MM in the year YYYY.
	Selected Studies	All images contained in the selected studies are saved.
Compression Method		Select Do not compress or Lossless.
Tag Setting	Delete patient information	When this is checked, images are saved with patient information deleted according to the deletion items selected in step 3.
	Delete private tags	When this is checked, images are saved with the Private tag values deleted.



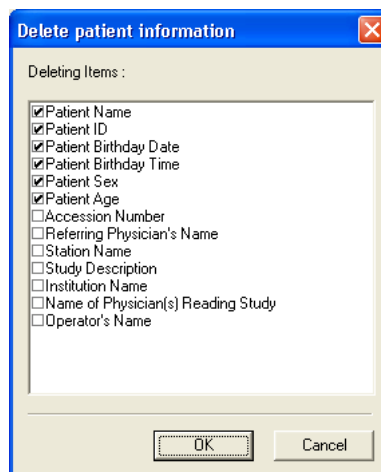
About the DR Image Viewer Light

If Save the DR Image Viewer Light with the image is checked, LightViewer.exe, Autorun.inf, an hta folder, and an image folder are created in the storage destination. By storing these files and folders on removable media, it is possible to view image files on a computer that does not have DR Image Viewer installed.

3

Select patient information items to be deleted.

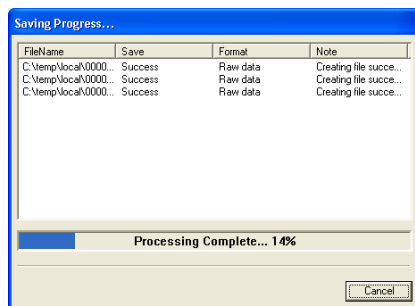
Check Delete patient information option under Tag Setting and click [Select...]. The Delete patient information window appears. Check the items you want to delete and click [OK].



Delete patient information window

4 Start saving the image.

Click [Save]. The Saving Progress window opens, and the saving progress is displayed. Once saving is completed, Processing Complete... 100% is displayed.



Saving Progress window



MEMO

When images cannot be saved

Images cannot be saved unless the folder properties are set correctly.

Set the access permissions in the Sharing tab and Security tab in the Properties window.

For details about the settings, follow the instructions by the network administrator.



MEMO

When saving images on CD or DVD discs

When the disc drive which supports the writing of images onto CD or DVD discs is selected as the storage destination, images can be stored on the disc media using the disc write function of the operating system.

However, in the case of DVD-RAM discs, images can be saved directly from the DR Image Viewer.

Furthermore, in the case of Windows XP or Windows Server 2003, only image writing on CD discs is supported as the disc write function of the operating system. When writing images to DVD discs in either of these operating systems, a separate writing software program is required. For further details, refer to the operating system's Help.

3.8 Saving images using the DICOMDIR format

Save the selected images in the selected folder using the DICOMDIR format.

Images saving operation can only be performed in the Patient tab.

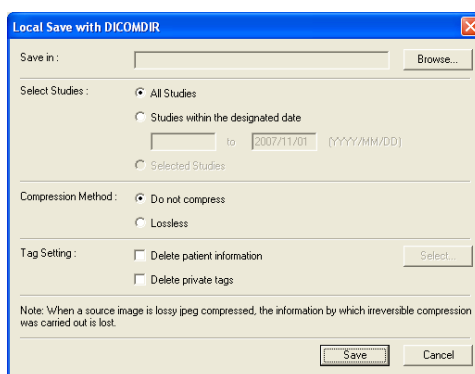
1 Select the patient or study.

To select multiple groups or patients, use the procedure described in 3.1.2 Selecting information (→ 16P.). When multiple items are selected, they are output in the order in which they appear on the list, from top to bottom. See 3.1.3 Changing the list display order (→ 16P.) for how to change the order in which items are displayed.

2 Open the Local Save with DICOMDIR window.

Click the commands from the menu bar in the following order.

[File] > [Local Save with DICOMDIR...]



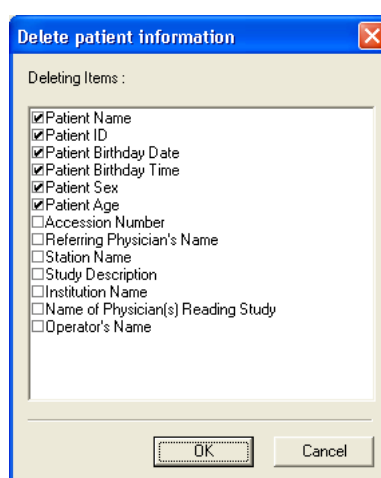
Window when saving images using the DICOMDIR format

Option name		Function
Save in		Click [Browse...] to open the Browse for Folder window, and then select the folder where you want to save images.
Select Studies	All Studies	All images contained in the selected information are saved.
	Studies within the designated date	Only the images between the specified search start date and the search end date are saved. Enter the search start date in the left box, and enter the search end date in the right box in the format YYYY, YYYY/MM, or YYYY/MM/DD. In the search start date, YYYY is used for January 1 of the year YYYY, and YYYY/MM is used for the first day of the month MM in the year YYYY. In the search end date, YYYY is used for December 31 of the year YYYY, and YYYY/MM is used for the last day (28th, 29th, 30th, or 31st) of the month MM in the year YYYY.
	Selected Studies	All images contained in the selected studies are saved.
Compression Method		Select Do not compress or Lossless.

Option name		Function
Tag Setting	Delete patient information	When this is checked, images are saved with patient information deleted according to the deletion items selected in step 3.
	Delete private tags	When this is checked, images are saved with the Private tag values deleted.

3 Select patient information items to be deleted.

Check **Delete patient information** option under **Tag Setting** and click [Select...]. The Delete patient information window appears. Check the items you want to delete and click [OK].

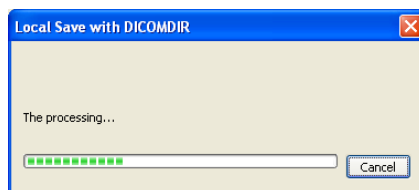


Delete patient information window

4

Start saving the image.

Click [Save]. The Saving Progress window opens, and the saving progress is displayed.



Window when images are being saved using the DICOMDIR format



When images cannot be saved

Images cannot be saved unless the folder properties are set correctly.

Set the access permissions in the Sharing tab and Security tab in the Properties window.

For details about the settings, follow the instructions by the network administrator.



When saving images on CD or DVD discs

When the disc drive which supports the writing of images onto CD or DVD discs is selected as the storage destination, images can be stored on the disc media using the disc write function of the operating system.

However, in the case of DVD-RAM discs, images can be saved directly from the DR Image Viewer.

Furthermore, in the case of Windows XP or Windows Server 2003, only image writing on CD discs is supported as the disc write function of the operating system. When writing images to DVD discs in either of these operating systems, a separate writing software program is required. For further details, refer to the operating system's Help.

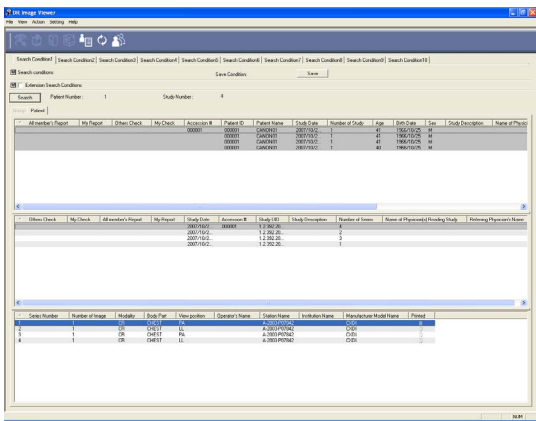
3.9 Showing and Outputting Reports

To view or output a report, select the Patient tab.

3.9.1 Showing Report

- 1
- Select a patient.

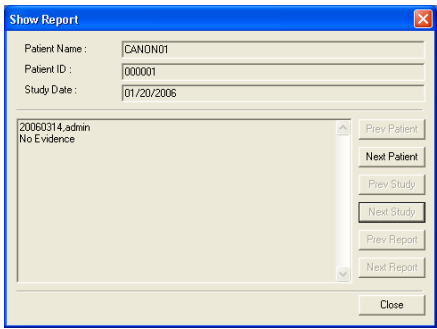
Click a patient on the Main Study list.



Worklist Display Mode (Patient Tab)

- 2
- Open the Show Report window.

Click the commands from the menu bar in the following order.
[Action] > [Study Report...]



Show Report window

Button	Function
Prev Patient	Display the report of the previous patient (the one shown above the current patient in the list) when there is more than one patient in a list.
Next Patient	Display the report of the next patient (the one shown under the current patient in the list) when there is more than one patient in a list.
Prev Study	Display the report of the previous study (the one shown above the current study in the list) when there is more than one study in a list.

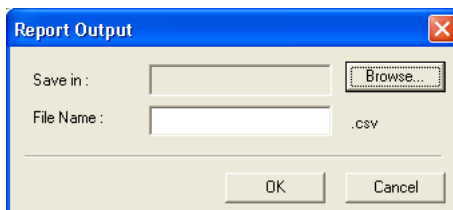
Button	Function
Next Study	Display report of the next study (the one shown under the current study in the list) when there is more than one study in a list.
Prev Report	Display the previous report. This button is displayed only when multiple user reports are entered for a single study.
Next Report	Display the next report. This button is displayed only when multiple user reports are entered for a single study.

3.9.2 Outputting reports

Reports are output as files in CSV (Comma Separated Value) format.

The reports contain the information registered in the database.

- 1 Select a patient.
Click a patient on the Main Study list.
- 2 Open the Report Output window.
Click the commands from the menu bar in the following order.
[File] > [Report Output...]



Report Output window

Option name	Function
Save in	Click the [Browse...] button to open the Browse for Folder window, and then select the folder where you want to save the report.
File Name	Input a file name for the report to be saved.

3 Output the report.

Click [OK]. The report is output to the file.

The report contains the following information.

Column No.	Description
1	Report ID (an automatically generated number up to 10 digits long)
2	Accession No.
3	Patient ID
4	Patient Name (1)
5	Patient Name (2)
6	Patient Name (3)
7	Study Date
8	Study Time
9	Sex
10	Age
11	Birth Date
12	Referring Physician's Name
13	Study Description
14	Contents of input report



About the Study Time

The Study Time does not appear correctly when the output report is displayed in Microsoft Excel. To correct the display of the Study Time, change the display format using Format Cells.

4. Setting Worklist Display Mode

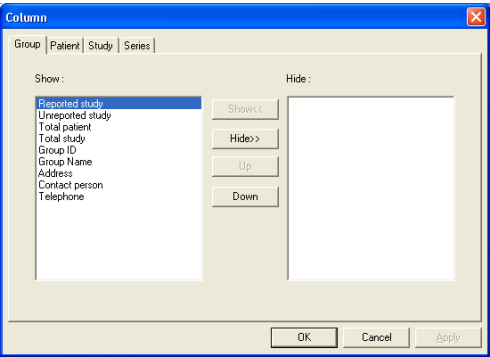
The setting described in this chapter can be performed either in the Group tab or Patient tab.

4.1 Setting and Changing the Display Items (Columns) in List

The selected display items and display order in the Group list in the Group tab and the Main Study list, Study list, and Series list in the Patient tab can be changed.

- 1
- Open the Column window.

Click the commands from the menu bar in the following order.
[Setting] > [Column...]



Column window

- 2
- Select the tab.

Click the tab.

Tab	Function
Group	Allow you to select the display items in the Group tab.
Patient	Allow you to select the display items in the Patient tab.
Study	Set the display items related to the Main Study list in the Patient tab, the Study list in the Study tab, Series list in the Series tab respectively.
Series	

3 Set whether the item is displayed or not.

Click the item name, and then click **[Show]** or **[Hide]** to move the item to the Show column or Hide column.

The following information about reports and checks is displayed.

Item	Information displayed
All member's Reports	The name of the person who input the report is displayed as the Full Name specified during DR Image Server user registration. The name of the person who input the report is not displayed if no Full Name has been set.
My Report	The symbol  is displayed if you input the report.
Others Check	The symbol  is displayed if another user checked detail examination in Image Display mode.
My Check	The symbol  is displayed if you checked detail examination in Image Display mode.

4 Set the display order.

The item names in the Show column from the top are displayed from left to right in the list.

To change the display order, click the item name, and then click **[Up]** or **[Down]** to move the item name.

5 Enable the setting.

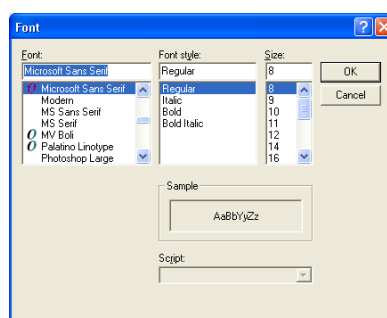
Click **[Apply]** to enable the setting with the window opened, and click **[OK]** to enable the setting and close the window.

4.2 Setting the Font

Note: Changing these settings does not affect the size of the fonts in the DICOM Attributes Information window (→ 77P.) and Visual Gamma Chart window (→ 143P.).

This sets the font used in the window.

- 1 Open the Font window.
Click the commands from the menu bar in the following order.
[Setting] > [Font...]



Font window

Option name	Function
Font	Select the font type.
Font style	Select the font style.
Size	Select the font size.
Script	Click ▼ to display the list, and then select the script.

- 2 Enable the setting.
Click [OK].
The Font window closes, and the screen font is changed.



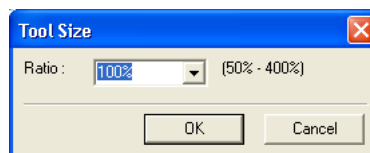
When characters are not displayed correctly

It may not be possible to display the entire window on the screen if the font size is too large.

4.3 Setting the Toolbar Size

To set the toolbar size:

- 1 Open the Tool Size window.
Click the commands from the menu bar in the following order.
[Setting] > [Tool Size...]



Tool Size window

- 2 Set the ratio.
Click ▾, and then select a size ratio either from the dropdown list or by entering a number between 50 and 400.
- 3 Enable the setting.
Click [OK].
The window closes, and the tool bar is resized.



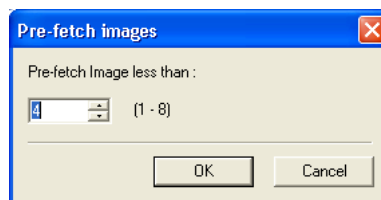
When the entire window cannot be displayed in the screen

It may not be possible to display the entire window on the screen if the tool size is too large.

4.4 Setting Prefetch

Prefetch is a function for reducing the time needed to display images by loading multiple images into the memory beforehand.

- 1 Open the Pre-fetch window.
Click the commands from the menu bar in the following order.
[Setting] > [Pre-fetch Images...]



Pre-fetch images window

- 2 Set the maximum number of images using prefetch.
Click ▼ or ▲, and then select a number between 1 and 8.
- 3 Enable the setting.
Click [OK].
The window is closed, and the setting is enabled.

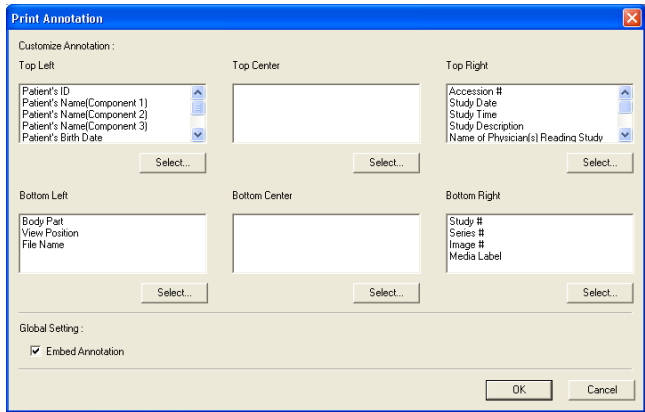
4.5 Setting the Print Annotation

To output the image to the printer, set the print annotation for printing the study and patient data to film.

- 1
- Open the Print Annotation window.

Click the commands from the menu bar in the following order.

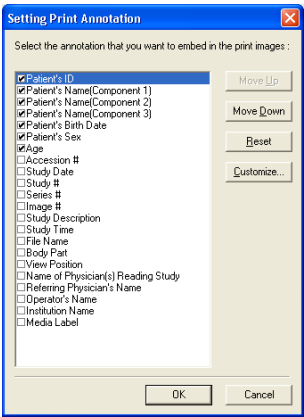
[Setting] > [Print Annotation...]



Print Annotation window

- 2
- Open the Setting Print Annotation window.

Click [Select...] of the position where the annotation is displayed.



Setting Print Annotation window

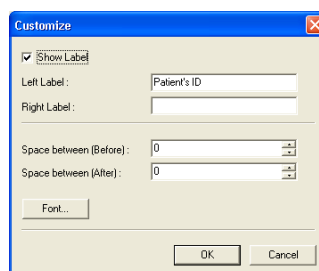
- 3
- Select the display item for annotation.

Check the items to be printed, and then set the display order, etc.

Button	Function
Move Up	Move the selected item up.
Move Down	Move the selected item down.
Reset	Reset the settings to the ones at the time of Setting Print Annotation window opened.
Customize...	You can make detailed settings for the selected item. Click [Customize...].

4 Customize the settings for the checked item.

Click [Customize...] to open the Customize window, and then set the details of each item.



Customize window

Option name	Function
Show Label	Checking this allows you to set the left and right labels.
Left Label	Enter the character string (max. 64 bytes) to be displayed on the left of the value. A colon (:) is inserted between the character string and the value. For example, entering "Patient" will display "Patient:CANON TAROU". If nothing is entered, : is not displayed.
Right Label	Enter the character string (max. 64 bytes) to be displayed on the right of the value. No delimiter is inserted between the character and the value. For example, entering "years old" will display "18years old".
Space between (Before) Space between (After)	These settings are used to enter blank lines above or below the currently selected item name. Enter a value between 0 and 9, or click ▲ or ▼ to enter a setting.
[Font...]	Click [Font...] to open the Font window (→ 45P.), and then select the font.

5 Close the Customize window.

Click [OK].

6 Close the Setting Print Annotation window.

Click [OK].

The window closes and the selected items are displayed in the box.

7 Make the Print Annotation Setting.

Display	Function
Embed Annotation	If this option is checked, Embed Annotation is automatically checked when the DICOM Print window (→ 27P.) opens.

8 Enable the setting.

Click [OK] in the Print Annotation window.

The window is closed, and the setting is enabled.

4.6 Setting the Log

This section describes how to set properties for the printer and storage output logs.

To view the log, select the commands from the taskbar in the following order to open the DR Event Viewer window.

[Start] > [All Programs] > [Canon Medical] > [DR Image Viewer] > [DR Event Viewer]

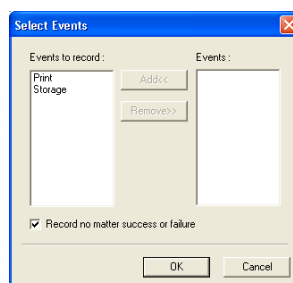
4.6.1 Setting Events

To set the properties for recording the logs of printer output and storage output:

1 Open the Select Events window.

Click the commands from the menu bar in the following order.

[Setting] > [Log] > [Select Events...]



Select Events window

2 Set the item to be recorded.

Click the item name, and then click [Add<<] or [Remove>>] to move to the Events to record column or Events column.

Option name	Function
Events to record	The logs for the displayed items are saved.
Events	The logs for the displayed items are not saved.

3 Set the details to be recorded.

If the Record no matter success or failure is checked, all logs are recorded for items displayed in the Events to record column regardless of whether the output is a success or failure.

If this option is not checked, only logs of output failures are recorded.

4 Enable the setting.

Click [OK].

The window is closed, and the setting is enabled.

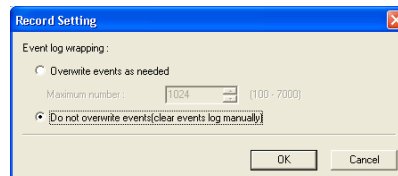
4.6.2 Record Setting

To set the properties for the saving of event logs:

1 Open the Record Setting window.

Click the commands from the menu bar in the following order.

[Setting] > [Log] > [Record Setting...]



Record Setting window

2 Set the saving settings for the event log.

Select the item in the Event log wrapping.

Option name	Function
Overwrite events as needed	Either enter the maximum number of records in the range from 100 to 7000, or click ▲ or ▼ to select one. When the size of the saved logs reaches the maximum number of records, the log with the oldest date is deleted the next time a log is saved.
Do not overwrite events (clear events log manually)	Logs are not deleted automatically. Note that if the logs are not deleted manually, the size of the log file will continue to become larger.

3 Enable the setting.

Click [OK].

The window closes, and the setting is enabled.

4.7 Setting Options

This section describes how to set properties for the Printer, Storage and Object save that you will use.

It also describes how to set parameters for report input when Report Input Privileges (→ DR Image Server Operation Manual) are assigned.

4.7.1 DICOM Printer Setting

DICOM Printer Setting tab is used to register and delete the printer in use, or change the printer properties.

4.7.1.1 Registering the printer

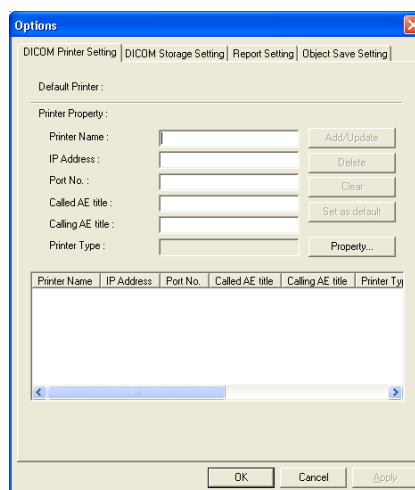
1

Open the Options window.

Click the commands from the menu bar in the following order.

[Setting] > [Option...]

The window will not open if an image is currently being output, so be sure to open it after the output is completed.



Option window (DICOM Printer Setting tab)

2

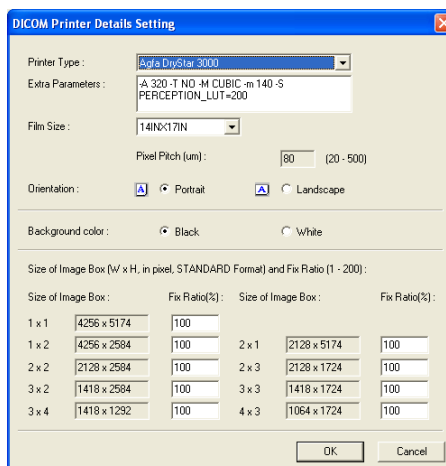
Set the transfer parameters.

Set the parameters according to the storage equipment used.

Field name	Function
Printer Name	Enter using 40 characters or less.
IP Address	Enter the IP address.
Port No.	Enter the port number.
Called AE title	Enter using 16 characters or less.
Calling AE title	Enter using 16 characters or less.
Printer Type	See Step 3, and set the printer parameters.

3 Set the printer parameters.

Click [Property...] to open the DICOM Printer Details Setting window, and then set the printer parameters.



DICOM Printer Details Setting window

Option name	Function
Printer Type	Click ▼ to display the preset printer list, and then select the printer to use. If your printer is not in the list, select <Customize>, and set the print parameters.
Extra Parameters	Enter the extra parameters. The preset values are the recommended values. When printing with a P-value-compliant printer, enter -Q.
Film Size	Click ▼ to display the list, and then select the film size that you will use.
Pixel Pitch	If <Customize> was selected in Printer Type, enter the pixel pitch of the printer in the range from 20 to 500 (μm).
Orientation	Select either Portrait or Landscape.
Background color	Select Black or White.
Size of Image Box (W x H, in pixel, STANDARD Format) and Fix Ratio (1-200)	To make multifomat prints, enter the number of pixels in a single image (width and height). (For x, enter the letter x) This setting can be changed only when <Customize> is selected in Printer Type. Enter a print magnification in the Fix Ratio box within the range from 1% to 200%.

4 Enable the setting.

Click [OK].

The window closes, and the setting is enabled.

The Printer type is displayed in the Printer Type column in the Options window.

5 Add the printer to the list.

Click [Add/Update].

Continued on the following page >>

6 Set the default printer.

To enable a printer in the list, click the printer name, and then click [Set as default].

The printer name is shown in the **Default Printer** at the top of the screen and is set as the default printer.

7 Enable the setting.

Click [Apply] to enable the setting with the window opened, and click [OK] to enable the setting and close the window.

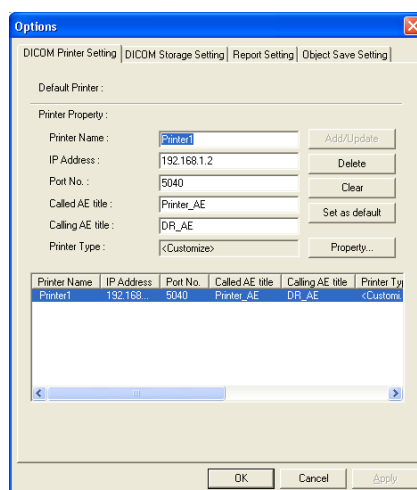
4.7.1.2 Deleting Printers

1 Open the Option window

Click the commands from the menu bar in the following order.

[Setting] > [Option...]

The window will not open if an image is currently being output, so be sure to open it after the output is completed.



Options window

2 Select the printer.

Select the printer that you want to delete from the list.

3 Delete the printer from the list.

Click [Delete].

The message "Do you want to delete this printer from the list?" is displayed.

Click [OK].

4 Enable the setting.

Click [Apply] to enable the setting with the window opened, and click [OK] to enable the setting and close the window.

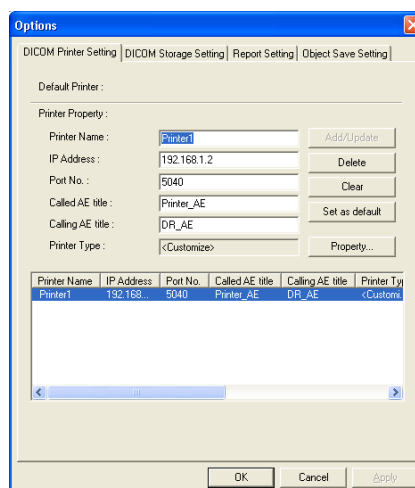
4.7.1.3 Changing the print settings

1 Open the Option window

Click the commands from the menu bar in the following order.

[Setting] > [Option...]

The window will not open if an image is currently being output, so be sure to open it after the output is completed.



Options window

2 Select the printer.

Select the printer that you want to change from the list.

The parameters are displayed.

3 Change the parameters.

Change the parameters by referring to section 4.7.1.1 Registering the printer (→ 52P.).

4 Change the list information.

Click [Add/Update].

If a printer name is changed, the printer is added to the list with a new printer name.

If the printer name is not changed, the message "You modify the existing printer. Do you want to update the printer list?" is displayed. Click [OK].

5 Apply new printer settings.

Click [Apply] to enable the setting with the window opened, and click [OK] to enable the setting and close the window.

4.7.2 DICOM Storage Setting

DICOM Storage Setting tab is used to register and remove the storages that are used, and change the storage properties.

4.7.2.1 Registering the storage

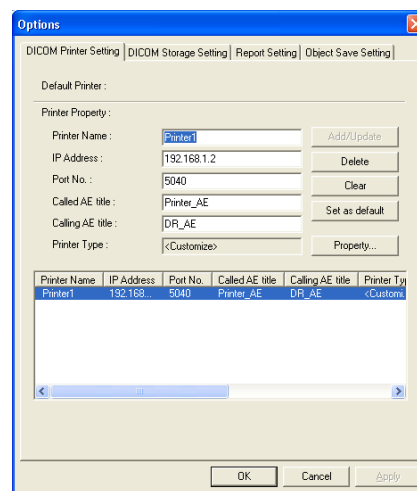
1

Open the Options window

Click the commands from the menu bar in the following order.

[Setting] > [Option...]

The window will not open if an image is currently being output, so be sure to open it after the output is completed.

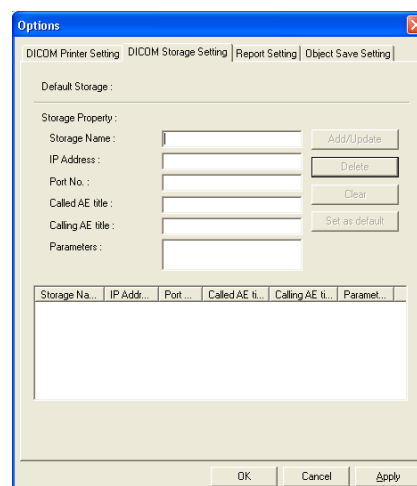


Options window (DICOM Printer Setting tab)

2

Display the DICOM Storage Setting tab.

Click the DICOM Storage Setting tab.



Options window (DICOM Storage Setting tab)

3 Set the transfer parameters.

Set the parameters according to the storage equipment used.

Storage Property	Function
Storage Name	Enter using 40 characters or less.
IP Address	Enter the IP address.
Port No.	Enter the port number.
Called AE title	Enter using 16 characters or less.
Calling AE title	Enter using 16 characters or less.
Parameters	Enter the storage-specific parameters.

4 Register the storage to the list.

Click [Add/Update].

Add the storage to the list.

5 Set the default storage.

To enable the storage in the list, click the Storage Name, and then click [Set as default].

The storage name is displayed in the **Default Storage** at the top of the screen and is set as the default storage.

6 Enable the setting.

Click [Apply] to enable the setting with the window opened, and click [OK] to enable the setting and close the window.

4.7.2.2 Deleting the storage

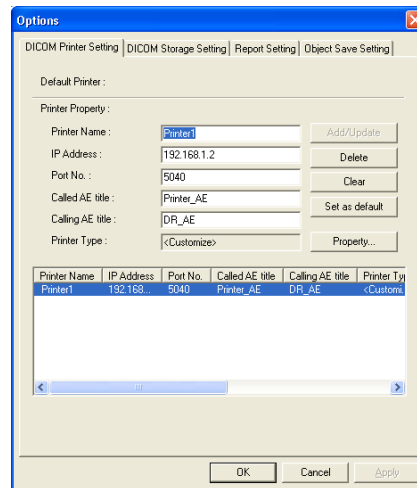
1

Open the Options window.

Click the commands from the menu bar in the following order.

[Setting] > [Option...]

The window will not open if an image is currently being output, so be sure to open it after the output is completed.

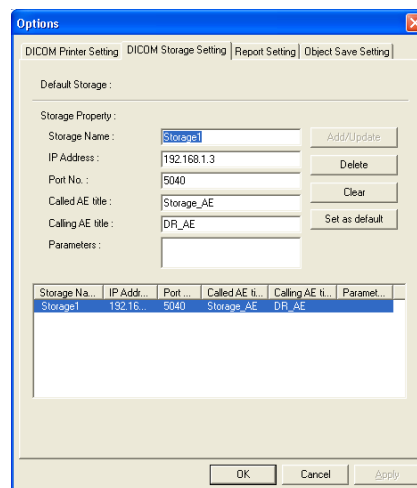


Options window (DICOM Printer Setting tab)

2

Select the DICOM Storage Setting tab.

Click the DICOM Storage Setting tab.



Options window (DICOM Storage Setting tab)

3

Select the storage.

Select the storage to delete from the list.

4 Delete the storage from the list.

Click [Delete].

The message “Do you want to delete this storage from the list?” is displayed.

Click [OK].

5 Enable the setting.

Click [Apply] to enable the setting with the window opened, and click [OK] to enable the setting and close the window.

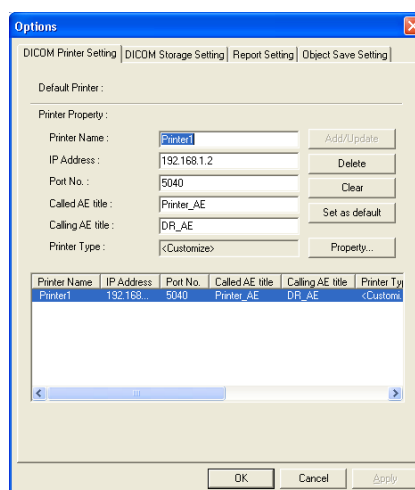
4.7.2.3 Changing the storage settings

1 Open the Options window.

Click the commands from the menu bar in the following order.

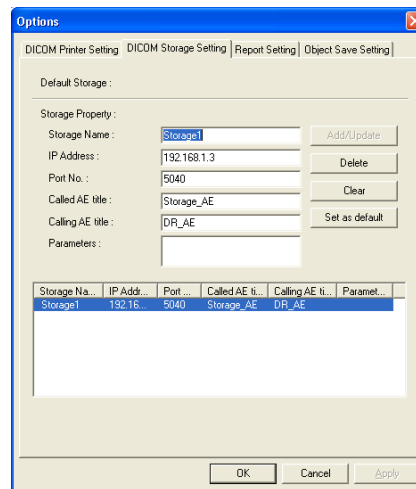
[Setting] > [Options...]

The window will not open if an image is currently being output, so be sure to open it after the output is completed.



Options window (DICOM Printer Setting tab)

- 2** Select the DICOM Storage Setting tab.
Click the DICOM Storage Setting tab.



Options window (DICOM Storage Setting tab)

- 3** Select the storage.
Select the storage that you want to change from the list.
The parameters are displayed.
- 4** Change the parameters.
Change the parameters by referring to section 4.7.2.1 Registering the storage (→ 56P.).
- 5** Change the list information.
Click [Add/Update].
If a storage name is changed, the storage is added to the list with a new storage name.
If the storage name is not changed, the message “You modify the existing storage, do you want to update the printer list?” is displayed.
Click [OK].
- 6** Apply new storage setting.
Click [Apply] to enable the setting with the window opened, and click [OK] to enable the setting and close the window.

4.7.3 Report Setting

Note: The Report Setting tab is not displayed unless the user logs in with reporting privileges.

To set the parameters for report input:

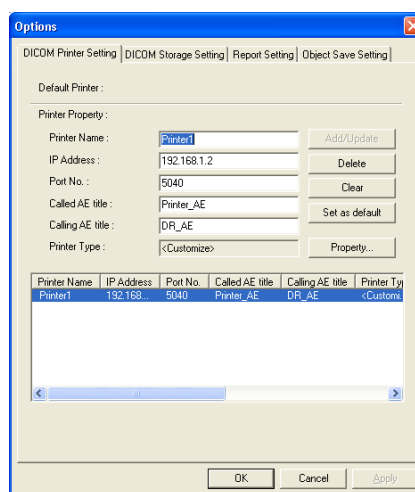
1

Open the Options window.

Click the commands from the menu bar in the following order.

[Setting] > [Options...]

The window will not open if an image is currently being output, so be sure to open it after the output is completed.

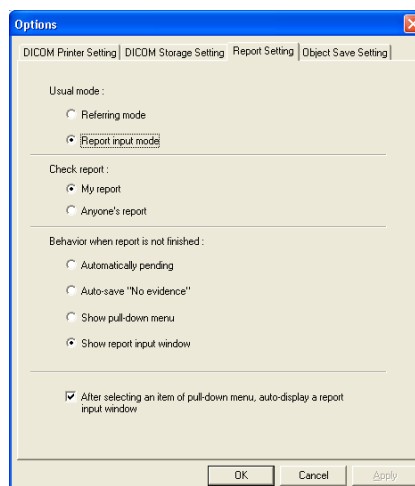


Option window (DICOM Printer Setting tab)

2

Display the Report Setting tab.

Click the Report Setting tab.



Options window (Report Setting tab)

Continued on the following page >>

3 Set parameters.

Option name		Function
Usual mode	Referring mode	When an image is displayed, the Report input mode (→ 122P.) is switched to the Referring mode.
	Report input mode	When an image is displayed, the Report input mode (→ 122P.) is switched to the Reading mode.
Check report	My report	When switching the display of the captured image without entering my report, operation is performed assuming that no report has been entered.
	Anyone's report	The Behavior when report is not finished is performed if a user has not entered a report and the image display is switched.
Behavior when report is not finished	Automatically pending	When switching display of the captured image without entering the report, pending is caused automatically.
	Auto-save "No evidence"	When switching display of the captured image without entering the report, No evidence is entered automatically.
	Show pull-down menu	When switching display of the captured image without entering the report, the pull-down menu is displayed.
	Show report input window	When switching display of the captured image without entering the report, the Report Input window opens.
After selecting an item of the pull-down menu, auto-display a report input window.		If this option is checked, the Report Input window opens after the report is entered with the Pull Down Menu button.

4 Enable the setting.

Click [Apply] to enable the setting with the window opened, and click [OK] to enable the setting and close the window.

4.7.4 Object Save Setting

Note: Some of setting items are set according to the DR image server system setting.

To set parameters related to object saving:

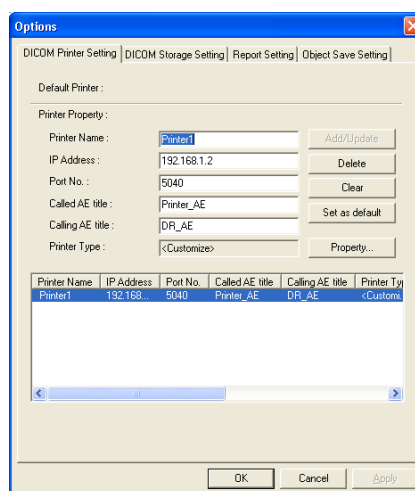
1

Open the Options window.

Click the commands from the menu bar in the following order.

[Setting] > [Options...]

The window will not open if an image is currently being output, so be sure to open it after the output is completed.

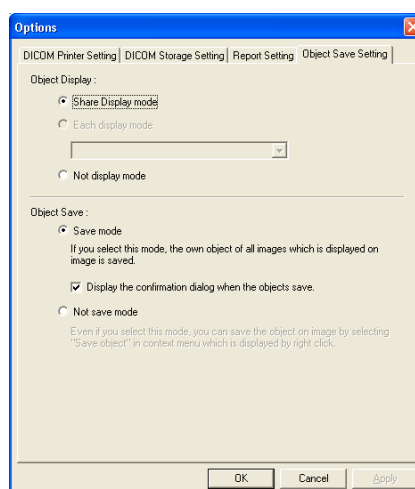


Options window (DICOM Printer Setting tab)

2

Display the Object Save Setting tab.

Click the Object Save Setting tab.



Option window (Object Save Setting tab)

Continued on the following page >>

3 Set parameters.

The Share Display mode can be selected when Share the object by all users is selected for Object Save in the system setting on the DR image server (→ DR Image Server Operation Manual). The Each Display mode and Not display mode can be selected when Save Object for Each User is selected in the system setting on the DR image server.

Option name		Function
Object Display	Share Display mode	No owner is designated for objects, so anyone can edit them.
	Each Display mode	When a captured image is displayed, the objects input by a user selected from the list under the Each Display mode are displayed.
	Not display mode	When a captured image is displayed, no object is displayed.
Object Save	Save mode	The object is saved automatically at the end of captured display.
	Display the confirmation dialog when the objects save	If this option is checked, the confirmation dialog is displayed when the object is saved automatically at the end of captured image display. The object is not saved if No is selected on the confirmation dialog.
	Not save mode	The object is not saved automatically at the end of captured display. To save of an object when in this mode, right-click the image, and then select [Save Object] from the context menu that appears.

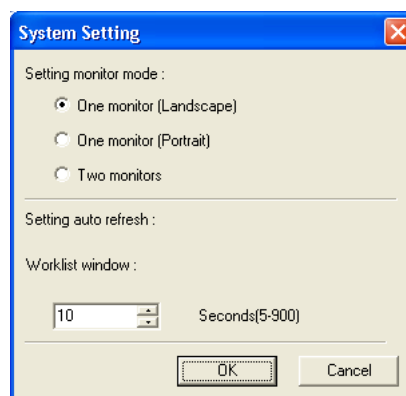
4 Enable the setting.

Click [Apply] to enable the setting with the window opened, and click [OK] to enable the setting and close the window.

4.8 System Setting

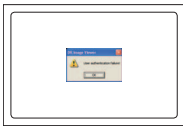
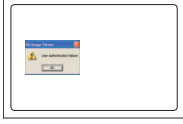
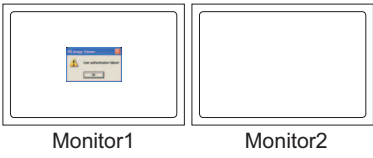
To set monitor mode for the Error message display (→ 151P.):

- 1 Open the System Setting window.
Click the commands from the menu bar in the following order.
[Setting] > [System Setting...]



System Setting window

- 2 Select Setting monitor mode.
The window display will appear as shown below, depending on the setting value and the number of monitors used.
The one monitor examples below are for landscape orientation.

Setting value	Number of monitors used	
	One monitor	Two monitors
One monitor (Landscape) One monitor (Portrait)		
Two Monitors		

- 3 Select an auto-update setting.
Click ▼ or ▲ to select an auto-update interval or enter a number from 5 to 900.
- 4 Enable the setting.
Click [OK].
The window is closed, and the setting is enabled.

5. Displaying Images (Image Display Mode)

5.1 View Images

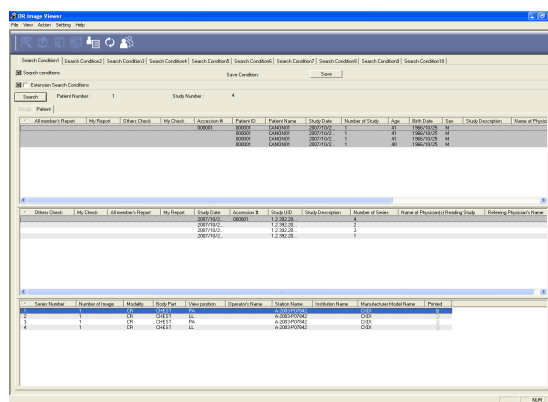
Image Display mode is the mode for viewing images.

It supports an image display using two monitors and in portrait-type monitors.

If the image display area is enlarged by hiding the title bar and menu bar at the top of the window, the image will be easier to view in full screen.

1 Select the patient to display.

Select the Patient tab in Worklist Display mode, and then select the patient from the worklist.



Select the Patient

2 Display the image.

Display the image using one of the following methods.

- Double-click the patient name or study.
- Click the patient name or study, and then click the View Images button (🖼️).
- Click the patient name or study, and then press the space bar on the keyboard.
- Click the patient name or study, and then click the commands from the menu bar in the following order.

[Action] > [View Images]

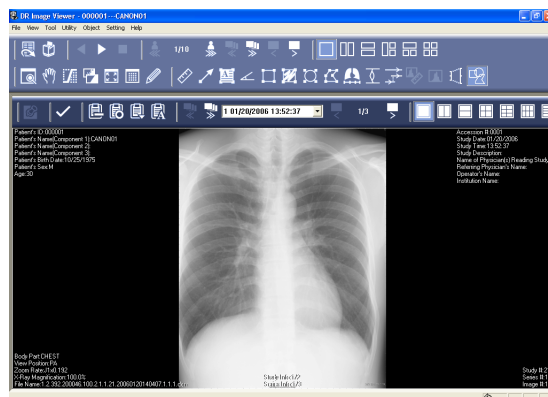


Image Display mode

Continued on the following page >>



Displaying worklists

To switch to Worklist Display mode, perform one of the following operations.

- Click the Worklist Display button .
- Press the ESC key on the keyboard.
- Click the commands from the menu bar in the following order.
[View] > [Worklist]

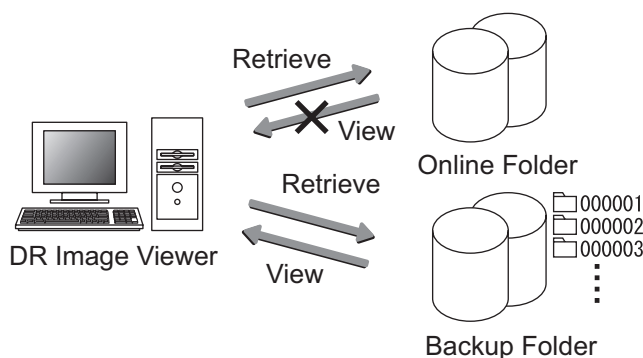


Backup files

The DR Image Server allows you to save images to an online folder and backup folder.

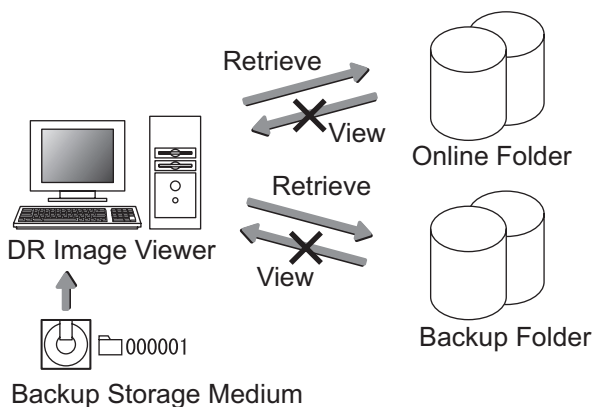
If images are saved in the backup folder, the DR Image Viewer can load images from the backup folder if they cannot be loaded from the online folder due to an error or other problems.

Media number folders (nnnnnn: 6-digits number) are automatically created under the backup folder, and the images are saved in these folders.



Also, if images cannot be loaded from both the online folder and backup folder, the Browse for Folder window opens, and a message is displayed asking you to designate the folder for viewing.

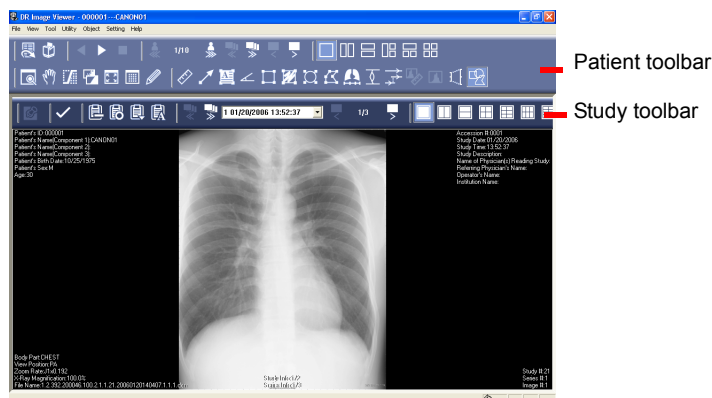
Select the backup folder on the media to which the backup files were saved. You will then be able to browse the images.



5.2 Displaying Toolbars

5.2.1 Patient toolbar and study toolbar

The toolbars include a Patient toolbar and a Study toolbar, each of which contains a variety of tools.



Patient toolbar

Window	Name	Reference chapter and page
	General Tool	5.1 View Images (→ 67P.) 7.1 Outputting to Printer (→ 89P.)
	Auto Display Tool	5.6 Displaying Images Automatically (Auto Display tool) (→ 76P.)
	Patient Tool	5.3 Selecting Patients and Studies (Patient tool) (→ 71P.)
	Study Multi-format Tool	5.5.1 Displaying images using the Study Multi-format tool (→ 73P.)
	Utility Tool	6. Using the Utility Tool (→ 79P.)
	Object Tool	8.5 Object Tool (→ 108P.)

Study toolbar

Window	Name	Reference chapter and page
	Pin Tool	5.5.1.2 Multi-image display and the Pin tool (→ 74P.)
	Detail Examination Tool	9. Report and Detail Examination (→ 121P.)
	Report Tool	
	Study Tool	5.4 Selecting Studies and Images (Study Tool) (→ 72P.)
	Image Multi-format Tool	5.5.2 Displaying images using the Image Multi-format tool (→ 75P.)

5.2.2 Displaying tools

To show or hide the tool, click [Tool] in the menu bar, and then click the respective tool name. A check mark is added to the name of the displayed tool.

When multiple images of studies are displayed by the Study Multi-format Tool, a toolbar is shown for each study, which can be shown/hidden by selecting [Tool] > [toolbar name] > [study name] from the menu bar.

5.2.3 Changing tool display settings

Refer to 10.3 Making Toolbar Settings (→ 133P.) for instructions on changing the size of tools and turning the display of individual buttons on or off.

5.2.4 Changing the tool position

Each toolbar can be changed to the floating state by dragging or double-clicking the | at the left side of the toolbar.

When a toolbar is in the floating state, you can change its position by dragging the title bar (where ** Tool is displayed) at the top of the title-bar window.

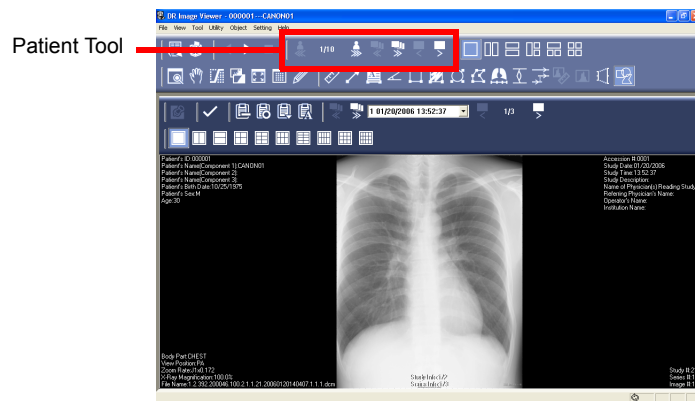
To cancel the floating state, double-click the title bar.

5.3 Selecting Patients and Studies (Patient tool)

The Patient tool allows you to select a patient, for whom associated images are displayed, or to select studies associated with a specific patient.

If the Patient tool is not visible, click the commands from the menu bar in the following order.

[Tool] > [Patient Tool]



The Patient tool includes the following functions.

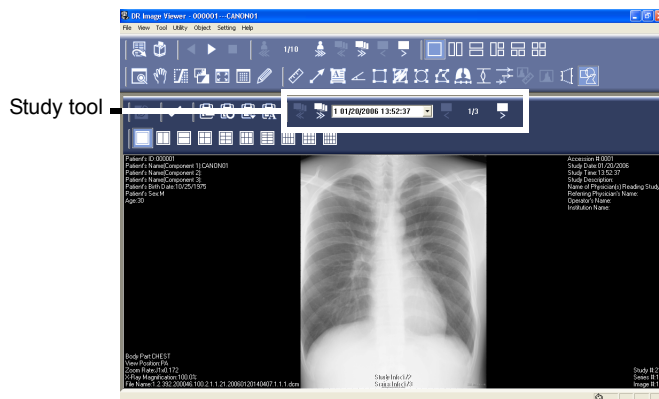
Button	Button Name (Display)	Function	Shortcut
	Prev Patient	Select the previous patient (displayed just above in the Main Study list).	Page Up
	Relative Position	Display the patient is number out of all patients and the total number of patients.	
	Next Patient	Display the next patient (displayed just below in the Main Study list).	Page Down
	Prev Study	Display images of later date than the study date of currently selected study.	←
	Next Study	Display images of older date than the study date of currently selected study.	→
	Prev Image	Display the image having a smaller series number than the currently displayed image.	↑
	Next Image	Display the image having a larger series number than the currently displayed image.	↓

5.4 Selecting Studies and Images (Study Tool)

The Study tool allows you to select studies or images associated with the selected patient.

If the Study tool is not visible, click the commands from the menu bar in the following order.

[Tool] > [Study Tool]



The Study tool includes the following functions.

Button	Button name (Display)	Function
	Prev Study	This displays the first image whose study date is later than the date of the selected study.
	Next Study	This displays the first image whose study date is earlier than the date of the selected study.
	Study's Position	Display information about the currently displayed study, using the selected study list sorting order, study information (month, date, year and time). Clicking displays the study belonging to the patient.
	Prev Image	This displays the image having a smaller series number than the displayed image.
	Image's number	This indicates the number of images being displayed and the total number of images belonging to the study.
	Next Image	This displays the image having a larger series number than the displayed image.

5.5 Displaying Multiple Images

The Study Multi-format tool and Image Multi-format tool can be used to display multiple images on the screen at the same time.

However, if the selected study or image does not exist (for example, if a two-image display is selected with the Study Multi-format tool for a study containing only one image), Empty is shown in the display area where it would have appeared.

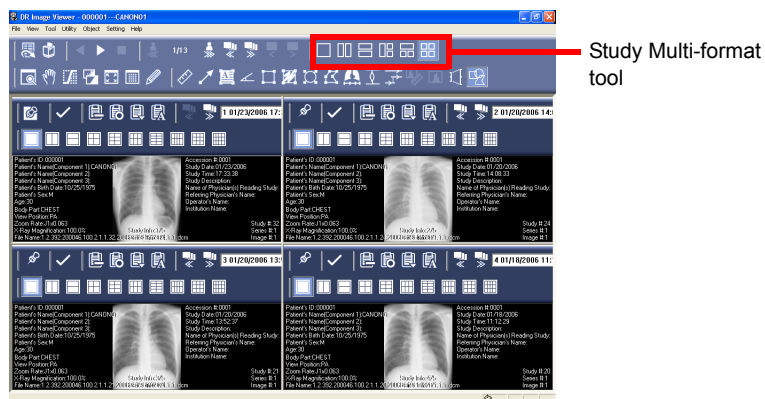
5.5.1 Displaying images using the Study Multi-format tool

5.5.1.1 Displaying multiple images in study units

You can use the Study Multi-format tool to display multiple images from a single study on the screen at the same time.

If the Study Multi-format tool is not visible, click the commands from the menu bar in the following order.

[Tool] > [Study Multi-format Tool]

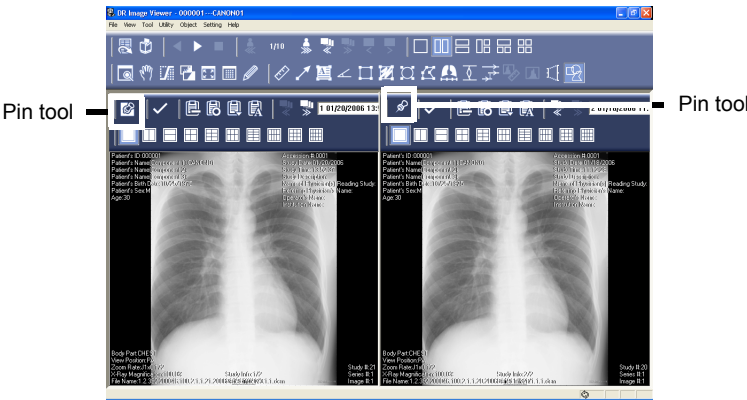


Example of four images displayed simultaneously

Button	Button name	Function
	One study	Display one study.
	Two studies (horizontally)	Images are displayed starting from the left to the right or from the right to the left according to the starting point set in Setting the Study Order (→ 144P.).
	Two studies (vertically)	Two images are displayed in order, from the top down.
	Three studies (1 on Left / 2 on Right)	Images are displayed starting from the left to the right or from the right to the left according to the starting point set in Setting the Study Order (→ 144P.).
	Three studies (1 on Top / 2 on Bottom)	Images are displayed in order, from the top down.
	Four studies	Images are displayed in the order specified as described in Setting the Study Order (→ 144P.).

5.5.1.2 Multi-image display and the Pin tool

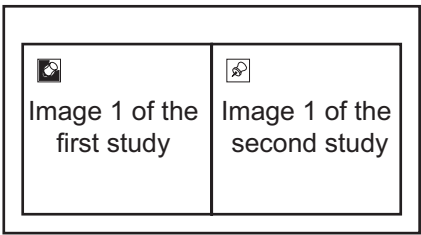
When displaying multiple images associated with a study, you can use the Pin tool to fix the display of the study.



When the Pin tool is enabled by clicking it (pin stop status), the study does not switch when the Prev Study or Next Study button of the Patient tool is clicked.

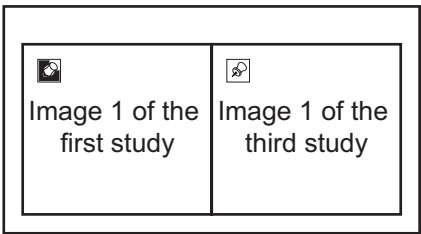
Button	Status	Function
	Pin stop is enabled	The study cannot be switched.
	Pin stop is disabled	The study can be switched.

If, for example, there are three studies associated with a patient, selecting show two studies horizontally with the Study Multi-format tool will return the image display to the initial state shown below (first study on the left, second study on the right), with the left image enabled and the right image disabled.



Initial state

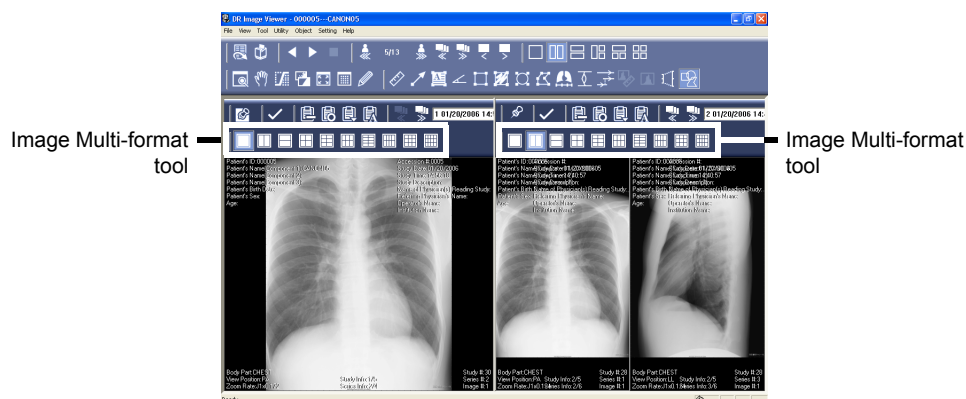
Clicking [Next Study] of the Patient tool in the initial state, the image display will become the state 1 below, and then change the right image to the image 1 of third study.



State 1

5.5.2 Displaying images using the Image Multi-format tool

This displays multiple images in a single screen.



Button	Button name	Function
	One Image	One image with the smallest series number contained in the study is displayed.
	Two Images (horizontally)	The image with the smallest series number contained in the study is displayed on the left, and the next smallest one is displayed on the right.
	Two Images (vertically)	The image with the smallest series number contained in the study is displayed on the top, and the next smallest one is displayed on the bottom.
	Four Images	The images are displayed in the order of top left, top right, bottom left, and bottom right starting from the smallest series number contained in the study.
	Six Images (vertically)	The images are displayed in the order of top left, top right, left center, right center, bottom left, and bottom right starting from the smallest series number contained in the study.
	Six Images (horizontally)	The images are displayed in the order of top left, top center, top right, bottom left, bottom center, and bottom right starting from the smallest series number contained in the study.
	Eight Images (vertically)	The images are displayed in the order of top left, top right, left second row, right second row, left third row, right third row, bottom left, and bottom right starting from the smallest series number contained in the study.
	Eight Images (horizontally)	The images are displayed in the order of top left, top center left, top center right, top right, bottom left, center bottom left, center bottom right, and bottom right starting from the smallest series number contained in the study.
	Nine Images	The images are displayed from top left to bottom right starting from the smallest series number contained in the study.
	Twelve Images	The images are displayed from top left to bottom right starting from the smallest series number contained in the study.



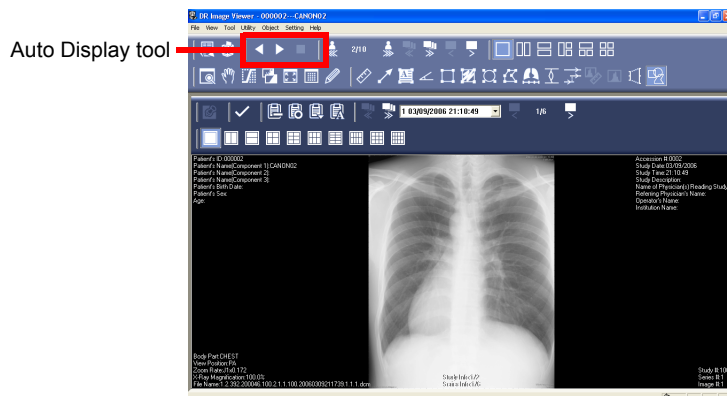
Using the mouse to change the image display position

When multiple images are displayed, you can change the image display position by dragging an image on top of another image and dropping it.

5.6 Displaying Images Automatically (Auto Display tool)

This automatically switches to an image for display.

For details on the display time for images, see section 10.6 Image Display (→ 138P.).



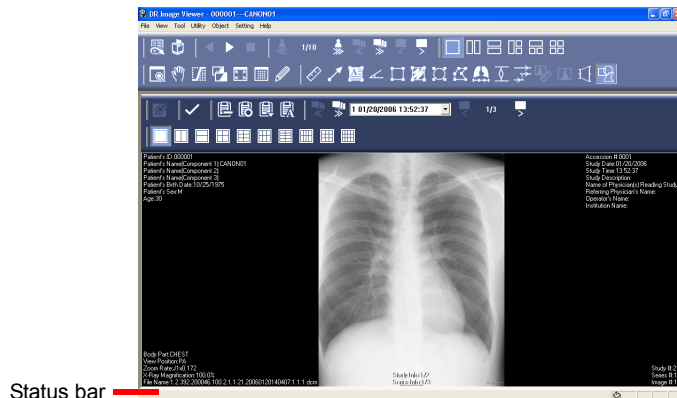
Button	Button name	Function
	Auto-Display Prev Patient	Automatically display the previous patient's image. (Go up in the Main Study list.)
	Auto-Display Next Patient	Automatically display the next patient's image. (Go down in the Main Study list.)
	Stop Auto- Display	Stop the auto display.

5.7 Making Selections from the Menu Bar

5.7.1 Displaying the status bar

To turn display of the status bar at the bottom of the window on or off:

You can switch display of the status bar on or off by clicking [View] > [Status Bar] on the menu bar.



Status bar displayed

5.7.2 DICOM Attributes Information

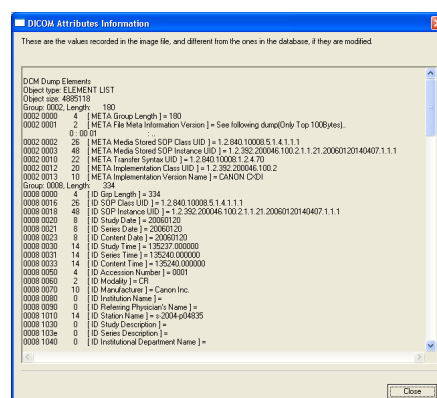
To open the DICOM Attributes Information window and display DICOM attributes information for the selected image:

Click the commands from the menu bar in the following order.

[View] > [DICOM Attributes Info...]

The information displayed is registered in the image file. It is not registered in the database.

For a description of the differences between the information registered in image files and the information registered in the database, refer to the DR Image Server Operation Manual.

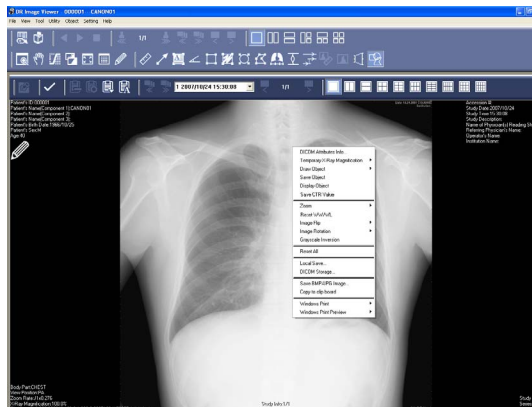


DICOM Attributes Information window

5.8 Context Menu

Right-click an image and a menu appears.

This menu is called a Context menu.



Context menu

Menu	Reference chapter and page
DICOM Attributes Info...	5.7.2 DICOM Attributes Information (→ 77P.)
Temporary X-ray Magnification	Based on the settings, the following values are displayed. - Correction value specified based on image header information (→ 119P.) - Correction value specified based on measurement value correction (→ 118P.) - Correction value specified by Default X-ray Magnification (→ 119P.) setting.
Draw Object	8.3 Inputting and Deleting Objects (→ 105P.)
Save Object	
Display Object	8.2 Displaying Objects (→ 104P.)
Save CTR Value	8.5.9 Detect CTR (→ 113P.)
Zoom	6.8.1 Zoom (→ 87P.)
Reset WW/WL	6.4 Change the Window Width/Window Level (WW/WL) (→ 82P.)
Image Flip	6.8 Selecting Functions from the Menu Bar (→ 87P.)
Image Rotation	
Grayscale Inversion	
Reset All	Resets the display, WW/WL, zoom, and magnification settings for the object to their default values.
Local Save...	7.3 Saving to a Local Folder (→ 95P.)
DICOM Storage...	7.4 Outputting to Storage (→ 98P.)
Save BMP/JPG Image...	7.5 Saving BMP/JPG Images (→ 99P.)
Copy to Clipboard	7.7 Copy to Clipboard (→ 102P.)
Windows Print	7.6 Windows Print (→ 100P.)
Windows Print Preview	

6. Using the Utility Tool

This is a tool for manipulating images.

6.1 Utility Tool

Frequently used menu items are also displayed as buttons on the Utility toolbar.

When the Utility tool is not displayed, click the commands from the menu bar in the following order.

[Tool] > [Utility tool]



Utility tool

Button	Button name	Function	Shortcut
	Magnify	This enlarges the image.	
	Pan	This allows you to move the image in any direction.	Drag the image while holding down the right mouse button.
	WW/WL	This changes the LUT (lookup table) for the image.	Drag the image while holding down the Shift key.
	Full Window	Switch window to full screen.	
	Pixel to Pixel	This displays one pixel of the image for each pixel on the monitor.	
	Report Mode	This switches Report mode to Reading mode or Referring mode.	



Edge Enhancement button

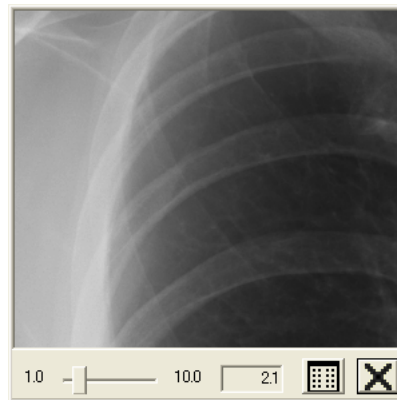
The Edge Enhancement button  is displayed if a Stitch (→ 161P.) license is registered.

When this button is clicked, the slider bar is displayed, and the edge enhancement of the images taken can be adjusted.

6.2 Magnify the Image

To open the Magnification window for enlarging certain sections of the image:

- 1 Open the Magnification window.
Click the Magnify button or click the commands from the menu bar in the following order.
[Utility] > [Magnify]



Magnification window

- 2 Move the window to the section that you want to view.
Move the pointer on the magnification window (pointer changes to ↖), and then drag the window.
- 3 Change the window size.
Drag a corner of the window to change the size.
- 4 Set the display conditions.
To set the magnification, drag the slider to the right or left or turn the mouse wheel (if you have a wheel mouse) to select a magnification ratio between 1.0 and 10.0. The current magnification rate is displayed in the right box of the slider. To display one pixel of the image on one pixel of the monitor, click . In this case, magnification cannot be set. Clicking again to reset.
- 5 Close the window.
Click the Magnify button again or click the commands from the menu bar in the following order.
[Utility] > [Magnify]
Alternately, switch the image display or click in the bottom right of the window to close it.

6.3 Pan the Image

To move the image.

1 Select pan the image.

Click the magnify button or click the commands from the menu bar in the following order.
[Utility] > [Pan]

2 Move the image.

Drag the image.

To reset, double-click the image.

3 Cancel pan the image.

Click the Pan button again or click the commands from the menu bar in the following order.

[Utility] > [Pan]



Moving the image using the right mouse button

Move the pointer on the image, and then right-click to change the pointer to  and move the image.

If more than one image is displayed, right-click while holding down the Alt key to change the pointer to  so that you can adjust all images at once.

6.4 Change the Window Width/Window Level (WW/WL)

This changes the LUT (lookup table) of the image.

6.4.1 Changing Window Width/Window Level (WW/WL)

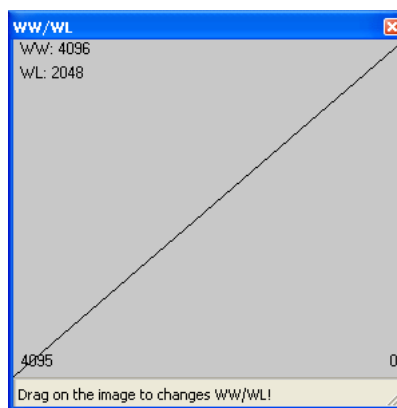
1

Open the WW/WL window.

Click the WW/WL button or click the commands from the menu bar in the following order.

[Utility] > [WW/WL] > [Change WW/WL]

The horizontal axis indicates the gradations (0 to 4095), and the vertical axis indicates the density.



2

Change the density.

To modify the density, move the pointer onto the image (pointer changes to ) and drag it to the left or right to turn the graph line counterclockwise or clockwise, or drag the pointer up or down to move graph line.

To reset, double-click the image or click the commands from the menu bar in the following order.

[Utility] > [WW/WL] > [Reset WW/WL]

3

Close the window.

Click the WW/WL button again or click the commands from the menu bar in the following order.

[Utility] > [WW/WL] > [Change WW/WL]

Alternately, switch the image display or click the  at the top right of the window to close it.



MEMO

Density adjustment using shortcut keys

Move the pointer on the image, and then press the Shift key on the keyboard to change the pointer to .

In this state, dragging the pointer on the image changes the density of the entire image.

To reset, double-click the image while holding down the Shift key.

If more than one image is displayed, pressing the Alt key while holding down the Shift key changes the pointer to  so that you can adjust all images at once.

6.4.2 Effect on output of changes to WW/WL

Normally, images are output without changing the Window Width/Window Level (WW/WL). Refer to the table below regarding outputting images with a different WW/WL setting.

Device	Setting	Reference chapter and page
Printer	Check Save the processed image with drawn objects and WW/WL data in the DICOM Print window.	7.1 Outputting to Printer (→ 89P.)
Storage	Check Save the processed image with drawn objects and WW/WL data in the DICOM Storage window.	7.4 Outputting to Storage (→ 98P.)
Local folder	Check Save the processed image with drawn objects and WW/WL data in the Local Save window.	7.3 Saving to a Local Folder (→ 95P.)

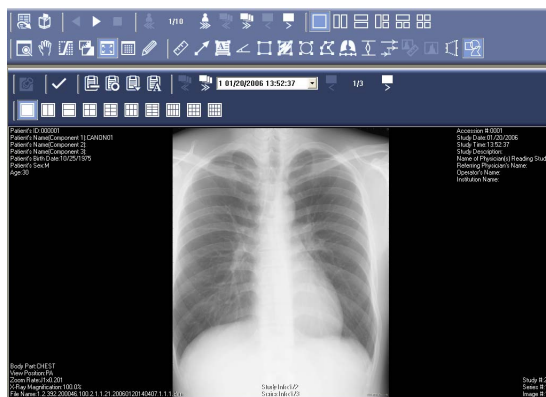
6.5 Full Window

Note: This operation is not saved when the application is finished.

Click the full window button or click the commands from the menu bar in the following order.

[Utility] > [Full Window]

The image display switches to full screen.



Full window

To show the title bar and menu bar when using the full screen view, move the pointer at the very top of the screen twice.

To prevent accidental usage of the toolbar, the title and menu bars are not displayed when the pointer is moved only once.

To restore the window to its original size, once again click the full window button or click the commands from the menu bar in the following order.

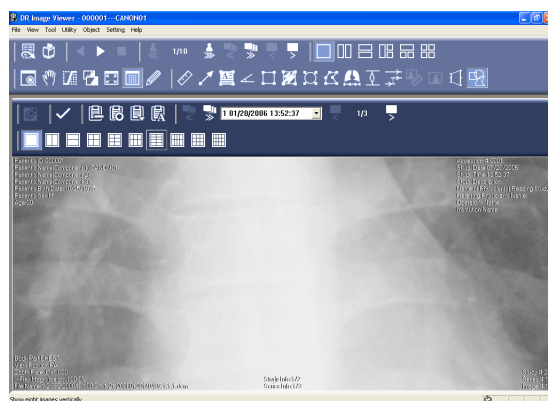
[Utility] > [Full Window]

6.6 Pixel to Pixel Display

Click the Pixel to pixel button or click the commands from the menu bar in the following order.

[Utility] > [Pixel to pixel]

The image is displayed so that each pixel of the image corresponds to a single pixel on the monitor.



Pixel to pixel display

To restore the display, once again click the Pixel to pixel button or click the commands from the menu bar in the following order.

[Utility] > [Pixel to pixel]

6.7 Report Tool

See 9. Report and Detail Examination (→ 121P.) for information on the Report tool.

6.8 Selecting Functions from the Menu Bar

The Zoom, Image Flip, Image Rotation, and Grayscale Inversion functions are not registered in the Utility tool and can only be selected from the menu bar or context menu (→ 78P.).

The procedure for selecting functions from the menu bar is described below.

For details on context menus, see section 5.8 Context Menu (→ 78P.).

6.8.1 Zoom

This function is used to increase or decrease the image zoom.

Operation	Procedure	Shortcut
Zoom In	Click the commands from the menu bar in the following order. [Utility] > [Zoom] > [Zoom In]	Drag the image upwards while holding down the Ctrl key or turn the mouse wheel away from you.
Zoom Out	Click the commands from the menu bar in the following order. [Utility] > [Zoom] > [Zoom Out]	Drag the image downwards while holding down the Ctrl key or turn the mouse wheel toward you.
Reset Zoom	Click the commands from the menu bar in the following order. [Utility] > [Zoom] > [Reset Zoom]	Double-click while holding down the Ctrl key.



MEMO

Manipulating multiple images at once

When multiple images are displayed, press the Alt key while holding down the Ctrl key. The pointer changes to a , indicating that all the images can be manipulated at once.

6.8.2 Image Flip

This function is used to flip the image vertically or horizontally.

Operation	Procedure
Left/Right	Click the commands from the menu bar in the following order. [Utility] > [Image Flip] > [Left/Right]
Up/Down	Click the commands from the menu bar in the following order. [Utility] > [Image Flip] > [Up/Down]

6.8.3 Image Rotation

This function is used to rotate the image.

Operation	Procedure
Rotate clockwise 90 degrees	Click the commands from the menu bar in the following order. [Utility] > [Image Rotation] > [90 Degree (CW)]
Rotate counterclockwise 90 degrees	Click the commands from the menu bar in the following order. [Utility] > [Image Rotation] > [-90 Degree (CCW)]

6.8.4 Grayscale Inversion

This function is used to reverse the darkness of the image.

Click the commands from the menu bar in the following order.

[Utility] > [Grayscale Inversion]

7. Output in Image Display Mode

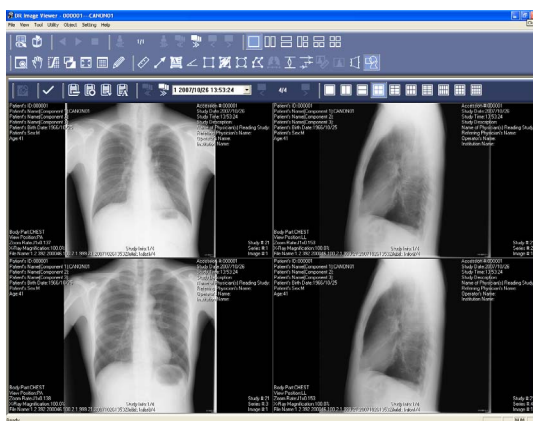
7.1 Outputting to Printer

Note: Before outputting the images to the printer, see section 4.7.1 DICOM Printer Setting (→ 52P.), and make the printer settings.

In contrast to the Worklist Display mode, Image Display mode allows multiple images to be laid out in any format and printed out.

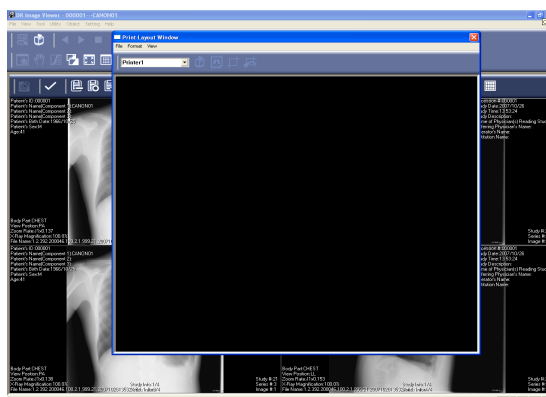
The example below shows how to print four images contained in one study to a single piece of film.

- 1 Display the image.
Display the four images.



Display the four images

- 2 Open the Print-Layout window.
Either click the Print-Layout button  or click the commands from the menu bar in the following order.
[File] > [Print-Layout Window...]



Print-Layout window

Continued on the following page >>

**Double-click behavior**

If Open the Print-Layout window and insert the image has been selected as the double-click behavior as described in section 10.9 Setting Double-Click Behavior (→ 145P.), double-clicking an image causes the Print-Layout window to open with the image inside it.

3

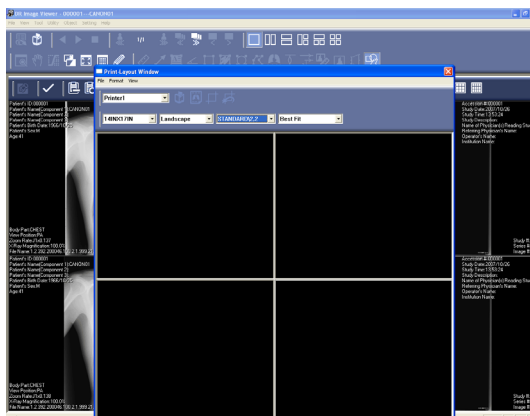
Set the layout from the layout setting tool.

When the layout setting tool is not displayed, click the commands from the menu bar in the following order.

[View] > [Layout Setting Tool]

Option name		Function
Film Size		Click  , and then select a film size from the list.
Orientation		Select either Portrait or Landscape .
Layout		Click  , and then select a layout from the list.
Zoom in/out	Best Fit	The entire image is resized to fit the page and printed.
	Same Ratio	Print at the same magnification ratio set as the Fix Ratio (→ 53P.).

In the example given here, select STANDARD\2.2 as the page layout in order to position four images.



Layout setting

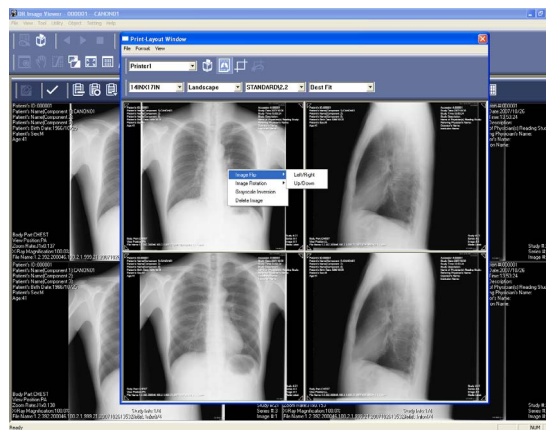
4

Drag the image to be printed to the layout box.

Drag an image into the frame of the Print-Layout window or double-click the image.

Images can still be output even if images are not put into all of the boxes.

To use an image associated with another patient or study, click the Prev Patient button () or Next Patient button () , or the Prev Study button () or Next Study button () , to select the patient or study.

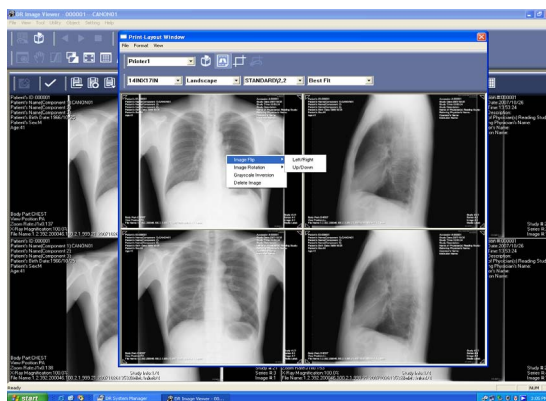


Dragging the Image

5

Change the image display.

Right-click on the image, and then select the option from the Context menu.



Menu display

Menu		Function
Image Flip	Left/Right	Flip the left and right sides of the image.
	Up/Down	Flip the top and bottom sides of the image.
Image Rotation	90 Degree (CW)	Rotate clockwise 90 degrees
	-90 Degree (CCW)	Rotate counterclockwise 90 degrees
Grayscale Inversion		This function is used to reverse the darkness of the image.
Delete Image		Delete images from the Print-Layout window. The images themselves are not deleted.

6 Set the printing method from the layout tool.

When the layout tool is not displayed, click the commands from the menu bar in the following order.

[View] > [Layout Tool]

Option name	Function
Printer Name	Click  , and then select a printer from the list.
DICOM Print	DICOM printing is performed.
Embed Annotation	When this is clicked and the embed status is established, the images are printed with the annotations (→ 48P.) embedded on them.
Crop	When this is clicked and the start and end points on the images are determined, the selected range is resized to fit the layout, and zoomed in.
Undo Crop	Crop is reset.



Concerning the patient information and study information displays

When the cursor is moved to the triangles indicated in each of the corners of the layout images, the patient information and study information are zoomed in.

7

Change the object settings.

Objects are displayed differently in the Print-Layout window than they are in Image Display mode.

Refer to 10.10 Making Print Object Settings (→ 146P.) for information on adjusting the object font and line settings.



Concerning the annotation display

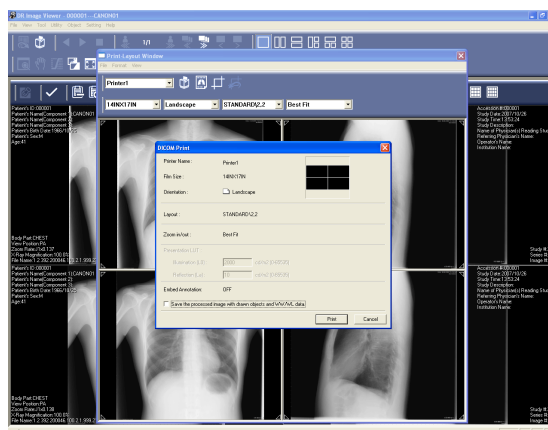
When an image is rotated on the print layout window, the annotation is also rotated in the same way.

When you do not want the annotation display to be rotated, rotate the image before inserting the image on the print layout window.

8 Open the DICOM Print window.

Either click the Print button (🖨️) in the toolbar, or click the commands from the menu bar in the following order.

[File] > [DICOM Print...]



DICOM Print window

9 Check and set the print parameters.

The print parameters which were set on the print layout window are displayed.

The following settings can be performed.

Option name	Function
Presentation LUT	If -Q has been input as a print parameter under Printer Setting, input the Illumination and Reflection values.
Save the processed image with drawn objects and WW/WL data.	If this option is checked, the drawn objects and the processed images (grayscale inversion, WW/WL and edge enhancement) are printed as they are displayed now. If this option is not checked, the image is printed as it was loaded.

10 Start printing.

Click [Print].

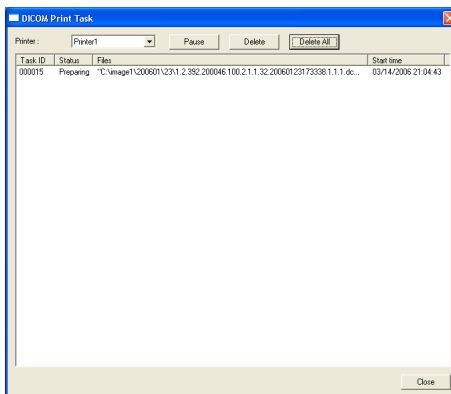
Output begins. When output is finished, the image display disappears.

When printing is initiated, an icon appears in the Printed item field on the series list and in the image display area.

7.2 Checking the Output Status of the Printer

To check the output status of the printer:

- 1 Open the DICOM Print Task window.
Click the commands from the menu bar in the following order.
[File] > [DICOM Print Task...]



DICOM Print Task window

- 2 Select the printer whose output status you will check.
Click ▼ to display the list, and then click the printer whose output status you will check.
The output status of the task can be checked in the **Status** column.

Status	Description
Waiting	The image is waiting for output.
Preparing	The image is being processed for output.
Printing	The image is being output.

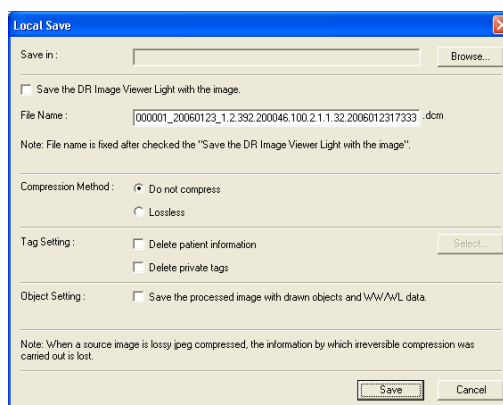
- 3 Operate the print task.
To operate a task that is in waiting, click the task, and then click the desired operation button. The task that is being processed cannot be operated.

Button name	Function
[Pause]	When clicked, the button changes to the depressed state and processing is paused. To restart, click the button again.
[Delete]	The selected task is deleted.
[Delete All]	This deletes all tasks.

7.3 Saving to a Local Folder

To save a single image to a local folder:

- 1 Open the Local Save window.
Right-click on the image, and then select [Local Save...] from the context menu that appears.



Local Save window

- 2 Set the saving method.

Option name		Function
Save in		Click [Browse...] to open the Browse for Folder window, and then select the folder where you want to save images.
Save the DR Image Viewer Light with the image		If this option is checked, the DR Image Viewer Light executable file is stored in the storage destination.
File Name		Input automatically in the format Patient ID_Study Date_SOP Instance UID. To change the name, enter a new file name. Note that if Save the DR Image Viewer Light with the image is checked, the file name consists of the SOP Instance UID only and cannot be changed.
Compression Method		Select Do not compress or Lossless.
Tag Setting	Delete patient information	When this is checked, images are saved with patient information deleted according to the deletion items selected in step 3.
	Delete private tags	When this is checked, images are saved with the Private tag values deleted.

Option name		Function
Object Setting	Save the processed image with drawn objects and WW/WL data	If this option is checked, any drawn objects and image manipulations (grayscale inversion, WW/WL, edge enhancement) are saved in their present state. If left unchecked, the image is saved in the form in which it was originally loaded.



MEMO

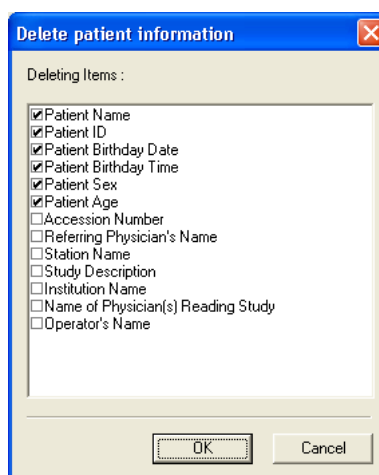
About the DR Image Viewer Light

If Save the DR Image Viewer Light with the image is checked, LightViewer.exe, Autorun.inf, an hta folder, and an image folder are created in the storage destination.
By storing these files and folders on removable media, it is possible to view image files on a computer that does not have DR Image Viewer installed.

3

Select patient information items to be deleted.

Check Delete patient information option under Tag setting and click [Select...]. The Delete patient information window appears. Check the items you want to delete and click [OK].



Delete patient information window

- 4** Save the image file.
Click [Save].



When saving images on CD or DVD discs

When the disc drive which supports the writing of images onto CD or DVD discs is selected as the storage destination, images can be stored on the disc media using the disc write function of the operating system.

However, in the case of DVD-RAM discs, images can be saved directly from the DR Image Viewer.

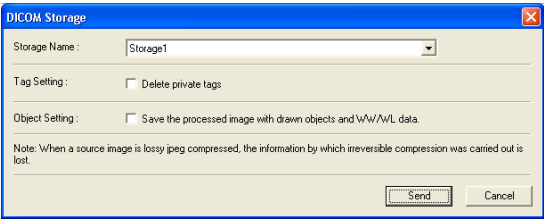
Furthermore, in the case of Windows XP or Windows Server 2003, only image writing on CD discs is supported as the disc write function of the operating system. When writing images to DVD discs in either of these operating systems, a separate writing software program is required. For further details, refer to the operating system's Help.

7.4 Outputting to Storage

To output a single image to the DICOM storage:

- 1
- Open the DICOM Storage window.

Right-click on the image, and then select [DICOM Storage...] from the context menu that appears.



DICOM Storage window

- 2
- Set the output method.

Option name		Function
Storage Name		Click ▼, and then select a storage name from the list.
Tag Setting	Delete private tags	If this option is checked, private tag values are deleted when the image is output.
Object Setting	Save the processed image with drawn objects and WW/ WL data	If this option is checked, any drawn objects and image manipulations (grayscale inversion, WW/WL, edge enhancement) are output in their present state. If left unchecked, the image is output in the form in which it was originally loaded.

- 3
- Output the image file.

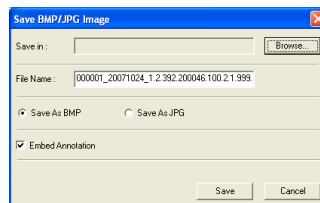
Click [Send].

7.5 Saving BMP/JPG Images

It is possible to store the images as bitmap files (with the extension bmp) or JPEG files (with the extension jpg).

1 Open the Save BMP/JPG Image window.

Right-click on the image, and then select [Save BMP/JPG Image...] from the context menu that appears.



Save BMP/JPG Image window

2 Set the saving method.

Option name	Function
Save in	Click [Browse...] to open the Browse for Folder window, and then select the folder where you want to save images.
File Name	Input automatically in the format Patient ID_Study Date_SOP Instance UID. To change the name, enter a new file name.
Save As BMP/Save As JPG	Select the format of the files in which the images are to be stored.
Embed annotation	If this option is checked, annotations are embedded as they appear on the screen.

3 Save the image file.

Click [Save].

7.6 Windows Print

You can print an image to a local printer.

You can also preview the image before printing it.

7.6.1 Windows Print Preview

To preview an image before printing it:

1

Open the Preview window.

To print the annotations displayed on the screen, either click

[File] > [Windows Print Preview] > [Embed Annotation...] from the menu bar, or

Right-click on the image, and then click

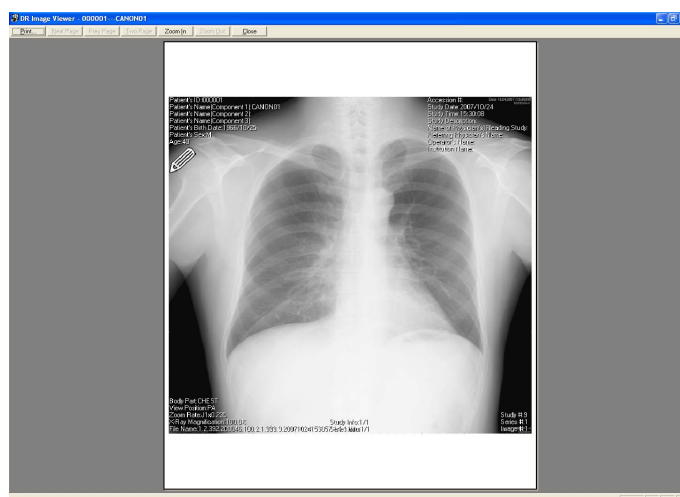
[Windows Print Preview] > [Embed Annotation...] from the context menu that appears.

To print the image without annotations, either click

[File] > [Windows Print Preview] > [Not Embed Annotation...] from the menu bar, or

Right-click on the image, and then click

[Windows Print Preview] > [Not Embed Annotation...] from the context menu that appears.



Preview window

2

Zoom in or zoom out the image.

Clicking [Zoom in] or [Zoom out] allows you to enlarge or reduce the image size.

3

Close the Preview window.

Click [Close].

To print the previewed image, click the [Print] button.

7.6.2 Windows Print

You can print an image to a local printer.

1

Open the Print window.

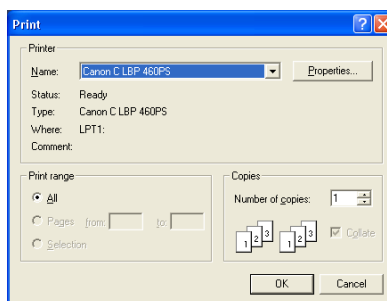
To print the annotations displayed on the screen, either click [File] > [Windows Print] > [Embed Annotation...] from the menu bar, or Right-click on the image, and then click

[Windows Print] > [Embed Annotation...] from the context menu that appears.

To print the image without annotations, either click

[File] > [Windows Print] > [Not Embed Annotation...] from the menu bar, or Right-click on the image, and then click

[Windows Print] > [Not Embed Annotation...] from the context menu that appears.



Print window

2

Set parameters.

3

Print the image.

Click [OK].

7.7 Copy to Clipboard

To copy an image to the clipboard:

- 1 To copy an image to the clipboard:
Right-click on the image, and then select [Copy to Clipboard] from the context menu that appears. The image is copied to the clipboard at the monitor resolution.

8. Manipulating objects

Figures drawn on images in DR Image Viewer, such as shapes or lines, are called objects.

8.1 Share and Save Settings

Before inputting objects, make the necessary settings for the DR Image Server sharing method, as described in **System Setting** (→ **DR Image Server Operation Manual**), and for the display method and save method, as described in **4.7.4 Object Save Setting** (→ 63P.). After the Object Save setting is changed, saved objects are no longer displayed. They will reappear when the setting is changed back.

DR Image Server System Setting

Object Save setting value	Function
Share the objects by all users.	No owner is designated for objects, so anyone can manipulate them.
Save the objects by each user.	An owner is assigned to each object, and you cannot edit objects that you do not own.

Object Save Setting

Option name		Function
Object Display	Share Display mode	No owner is designated for objects, so anyone can edit them. This mode can be selected if the Object Save setting value is Share the objects by all users.
	Each Display mode	When a captured image is displayed, the objects input by a designated user are displayed. This mode can be selected if the Object Save setting value is Save the objects by each user.
	Not display mode	When a captured image is displayed, no object is displayed.
Object Save	Save mode	The state of the object is saved automatically when display of the object is closed or the object display is switched.
	Display the confirmation dialog when the objects save	If this option is checked, a confirmation dialog is displayed when display of the object is closed or the object display is switched. The object is not saved if No is selected on the confirmation dialog.
	Not save mode	The state of the object is not saved automatically when display of the object is closed. To save the state of an object when in this mode, right-click the image, and then select [Save Object] from the context menu that appears.

8.2 Displaying Objects

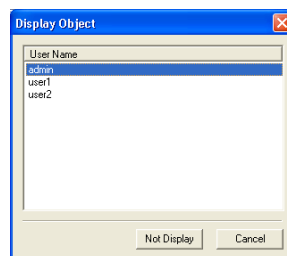
There are two ways to display objects. Either click the Object Display button on the Object tool (→ 108P.), or use the context menu to display objects for the selected image.

In addition, the operation differs depending on the DR Image Server System Setting (→ DR Image Server Operation Manual).

		Display method	
		Object Display button	Context Menu
Object Save setting value	Share the objects by all users.	Switches display of objects associated with all displayed image on or off.	Switches display of objects associated with the selected image on or off. This operation is not dependent on whether or not the Display Object button (→ 108P.) is enabled.
	Save the objects by each user.	Opens the Display Object window.	Open the Display Object in Current Image window.

8.2.1 Display Object window

This window displays the objects associated with the selected user for all displayed images. When the [Not Display] button is clicked, it remains in the depressed state and no objects are displayed.



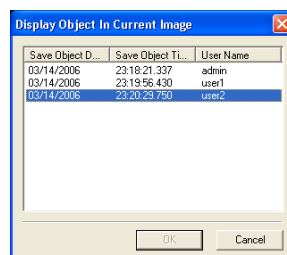
Display Object window

8.2.2 Display Object in Current Image window

For each user, this window displays the newest objects associated with the selected image and the dates and times they were saved.

Note that the names of users who have not input objects are not displayed.

Select a user and click [OK]. The objects associated with the selected user are displayed.



Display Object in Current Image window

8.3 Inputting and Deleting Objects

8.3.1 Object settings

Before inserting an object, specify the font and line weight.

Setting item	Setting description	Reference chapter and page
Object font	Specifies the font for indications of the length, angle, etc., of drawn lines.	10.1 Setting the Object Font (→ 131P.)
Text font	Specifies the font for text input to text boxes.	10.2 Setting the Text Font (→ 132P.)
Draw line	Specifies the weight (thickness) of drawn lines.	10.4 Setting the Line Format (→ 135P.)

8.3.2 Inputting objects

With display of objects turned on (→ 104P.), either use the Object tool (→ 108P.), or make a selection from the context menu (→ 78P.) to insert an object.

It is not possible to save objects input when the Display Object button is not in the depressed state.

8.3.3 Saving the object state

The operation for saving objects differs depending on the DR Image Server System Setting (→ DR Image Server Operation Manual).

Object Save setting value	Operation
Save mode	The state of the object is saved automatically when display of the object is closed or the object display is switched.
Display the confirmation dialog when the objects save	If this option is checked, a confirmation dialog is displayed when display of the object is closed or the object display is switched. The object is not saved if No is selected on the confirmation dialog.
Not save mode	The state of the object is not saved automatically when display of the object is closed. To save the state of an object when in this mode, right-click the image, and then select [Save Object] from the context menu that appears.

8.3.4 Deleting objects

You can either delete a selected object or all objects.

8.3.4.1 Selecting objects for deletion

- 1** Select an object.
Click the object to be deleted.
- 2** Delete the object.
Either press the Del key on the keyboard, or click the commands from the context menu in the following order.
[Draw Object] > [Delete]
- 3** Save the object state.
Refer to 8.3.3 Saving the object state (→ 105P.), and save the object state.

8.3.4.2 Deleting all objects

- 1** Delete the object.
Click the commands from the context menu in the following order.
[Draw Object] > [Delete All]
- 2** Save the object state.
Refer to 8.3.3 Saving the object state (→ 105P.), and save the object state.

8.4 Outputting Objects

Normally, images are output without objects.

To output an image with associated objects included, refer to the table below.

Device	Setting	Reference chapter and page
Printer	Check Save the processed image with drawn objects and WW/WL data in the DICOM Print window.	7.1 Outputting to Printer (→ 89P.)
Storage	Check Save the processed image with drawn objects and WW/WL data in the DICOM Storage window.	7.4 Outputting to Storage (→ 98P.)
Local folder	Check Save the processed image with drawn objects and WW/WL data in the Local Save window.	7.3 Saving to a Local Folder (→ 95P.)

8.5 Object Tool

The Object tool contains buttons for frequently used commands from the Object menu.

To make the Object tool visible, click the commands from the menu bar in the following order.

[Tool] > [Object Tool]



Object Tool

Button	Button name	Function
	Measure Distance	Used to measure the distance.
	Arrow	Used to draw an arrow.
	Text	Used to enter text.
	Measure Angle	Used to measure an angle.
	Rectangle	Used to draw a rectangle:
	Cover Rectangle	Used to draw a square filled in.
	Ellipse	Used to draw an ellipse.
	Polygon	Used to draw a polygon.
	Detect CTR	Used to measure the cardiothoracic ratio (CTR).
	Measure Cobb-Angle	Used to measure the bend of the spinal column.
	Height Difference	Used to measure the difference in height (curvature of the body).
	Profile	Used to display the information for the pixel value on a line drawn by Measure Distance.
	Statistics	Used to display the information for the pixel value of the area selecteted in Rectangle, Ellipse, or Polygon.
	Length Calibration	Used to correct the magnification rate when an image is taken being magnified.
	Display Object	Used to switch between object display and not display modes

8.5.1 Measure distance

Note: Measurement values are calculated based on the pixel size of the image.

If measuring a magnified image based on the subject position when it was taken, correct the measurement values using the Default X-ray Magnification (→ 119P.) or the Length Calibration (→ 118P.).

To draw a line on the image and measure the distance:

- 1 Select the Measure Distance.
Click the Measure Distance button.
The pointer changes to + over the image.
- 2 Determine the starting point.
Click the starting point on the image.
- 3 Determine the end point.
A line is drawn when the pointer is moved. Click to determine the end point.
The distance from the starting point to the end point is indicated in the center of the line by Distance on the image x Correction rate. The unit can be set as mentioned in 10.4 Setting the Line Format (→ 135P.).
- 4 Change the shape or move if necessary.
Click the drawing. To change the shape, drag the  section. To move, drag any other section.



Viewing profiles

Click the Profile button  to display the Profile window (→ 116P.).

8.5.2 Arrow

To draw an arrow on the image:

- 1 Select the arrow.
Click the Arrow button.
The pointer changes to + on the image.
- 2 Determine the starting point.
Click the starting point on the image.
- 3 Determine the end point.
An arrow is drawn when the pointer is moved. Click to determine the end point.
- 4 Change the shape or move if necessary.
Click the drawing. To change the shape, drag the  section. To move, drag any other section.

8.5.3 Text

To input text on the image:

- 1** Select the Text.
Click the Text button. The pointer changes to + on the image.
- 2** Determine the starting point.
Click the starting point on the image.
- 3** Determine the size of the box.
A text box is drawn when the pointer is moved. Click to determine the box size.
- 4** Enter text.
Text is displayed in the text box. Delete this, and then enter the desired text.
- 5** Change the shape or move if necessary.
Click the text box. To change the shape, drag the  section. To move, drag any other section.

8.5.4 Measure angle

To measure an angle:

- 1** Select the Measure Angle.
Click the Measure Angle button. The pointer changes to + on the image.
- 2** Determine the starting point.
Click the starting point on the image.
- 3** Determine the corner of the angle.
A line is drawn when the pointer is moved. Click to determine the corner point.
- 4** Determine the angle.
A line is drawn when the pointer is moved. The angle with the line drawn in **Step 3** is shown.
Click to determine the angle and change the pointer to a pen.
- 5** Determine the size of the arc.
The size of the arc is changed when the pointer is moved. Click to determine the size.
- 6** Change the shape or move if necessary.
Click the drawing. To change the shape, drag the  section (pointer changes to a pen).
To move, drag any other section.

8.5.5 Rectangle

To draw a rectangle:

- 1** Select the Rectangle.
Click the Rectangle button. The pointer changes to + on the image.
- 2** Determine the starting point.
Click the starting point on the image.
- 3** Determine the size of a square.
A square is drawn when the pointer is moved. Click to determine the size.
- 4** Change the shape or move if necessary.
Click the drawing. To change the shape, drag the  section. To move, drag any other section.



Viewing the statistics

Click the Statistics button () to display the Statistics window (→ 117P.).

8.5.6 Cover Rectangle

To draw a square filled in with black:

- 1** Select the Cover Rectangle.
Click the Cover Rectangle button.
The pointer changes to + on the image.
- 2** Determine the starting point.
Click the starting point on the image.
- 3** Determine the size of a square.
A square is drawn when the pointer is moved. Click to determine the size.
- 4** Change the shape or move if necessary.
Click the drawing. To change the shape, drag the  section. To move, drag any other section.

8.5.7 Ellipse

To draw an ellipse:

- 1** Select the Ellipse.
Click the Ellipse button.
The pointer changes to + on the image.
- 2** Determine the starting point.
Click the starting point on the image.
- 3** Determine the size of the ellipse.
A square is drawn when the pointer is moved. Click to determine the size.
- 4** Change the shape or move if necessary.
Click the drawing. To change the shape, drag the  section. To move, drag any other section.



Viewing the statistics

Click the Statistics button () to display the Statistics window (→ 117P.).

8.5.8 Polygon

To draw a polygon:

- 1** Select Polygon.
Click the Polygon button. The pointer changes to + on the image.
- 2** Determine the starting point.
Click the starting point on the image.
- 3** Determine the second point.
A line is drawn when the pointer is moved. Click to determine the length.
- 4** Determine the third and subsequent points.
A triangle is drawn when the pointer is moved. Click to make a triangle.
Then, a corner is added by each click. To finalize the polygon, double-click the point.
- 5** Change the shape or move if necessary.
Click the drawing. To change the shape, drag the  section (pointer changes to a pen).
To move, drag any other section.



Viewing the statistics

Click the Statistics button () to display the Statistics window (→ 117P.).

8.5.9 Detect CTR

Note: The results detected using this function should be confirmed without fail, and if necessary manual adjustments should be made.

Note: To save the cardiothoracic ratio in a report, reporting privileges must be set in the DR Image Server.

This measures the cardiothoracic ratio (CTR) automatically.

1 Select the Detect CTR.

Click the Detect CTR button.

CTR detection starts.

2 A confirmation message appears.

A window opens to show the message "Is the Detect CTR result right?".

If the measurement result is OK, click [YES]. If the measurement result is not OK, click [NO].

Clicking [NO] opens a window that shows the message "Please adjust the CTR bar by yourself!".

Adjust the measurement value following the procedure stated below.



Saving measured values

To save the measured value, click [Object] > [Save CTR Value] from the menu bar, or click Save CTR Value from the context menu.

3 Move the image as needed.

To move the image, drag it with the pointer located on a position except .

4 Determine the thorax size.

Drag the two outer  sections so that they are aligned with the left and right of the thorax.

5 Determine the heart size.

Drag the two outer  sections so that they are aligned with the left and right of the heart.

8.5.10 Measure Cobb-Angle

To measure the bend of the spinal column:

- 1** Select the Measure Cobb-Angle.
Click the Measure Cobb-Angle button. The pointer changes to + on the image.
- 2** Determine the starting point of the bottom side (top side).
Click the starting position of the bottom side (top side) on the image.
- 3** Determine the end point of the bottom side (top side).
A line is drawn when the pointer is moved. Click to determine the end point.
- 4** Determine the starting point of the top side (bottom side).
A dotted line is shown when the pointer is moved (this dotted line is not drawn). Click to determine the starting point.
- 5** Determine the end point of the top side (bottom side).
A line is drawn when the pointer is moved. Click to determine the end point.
The angle of the perpendicular line on the top and the one on the bottom is then displayed.
- 6** Determine the display position of the angle.
The display position of the angle is moved when the pointer is moved. Click to determine the display position.
The pointer changes to a pen.
- 7** Determine the size of the arc.
The size of the arc is changed when the pointer is moved. Click to determine the size.
- 8** Change the shape or move if necessary.
Click the drawing. To change the shape, drag the  section (pointer changes to a pen).
To move, drag any other section.

8.5.11 Height Difference

To measure the distance between two parallel lines:

- 1** Select the Height Difference.
Click the Height Difference button.
The pointer changes to + on the image.
- 2** Determine the starting point of the reference line.
Click the starting point on the image.
- 3** Determine the end point of the reference line.
A line is drawn when the pointer is moved. Click to determine the end point.
- 4** Determine the position of the first measuring line.
A dotted line is displayed when the pointer is moved (this dotted line is not drawn). Click to determine the position of the first measuring line.
- 5** Determine the position of the second measuring line.
A dotted line is displayed when the pointer is moved (this dotted line is not drawn). Click to determine the position of the second measuring line.
A distance is displayed between the two measuring lines.
- 6** Change the shape or move if necessary.
Click the drawing. To change the shape, drag the  section. To move, drag any other section.

8.5.12 Profile

To display the data for the pixel values on the line drawn on the image using the Measure Distance tool.

1

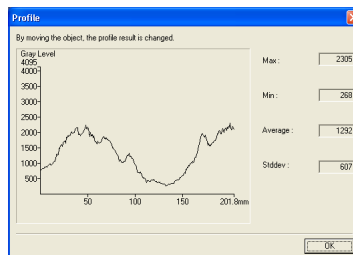
Draw a line.

Use the Measure Distance tool (→ 109P.) to draw a line on the image.

2

Open the Profile window.

Click the Profile button.



Profile window

Field name	Description
Max	Maximum pixel value on the line
Min	Minimum pixel value on the line
Average	Mean of the pixel values
Stddev	Standard deviation

3

Change the shape or move the line if necessary.

Click the line. To change the shape, drag the  section. To move, drag any other section.

4

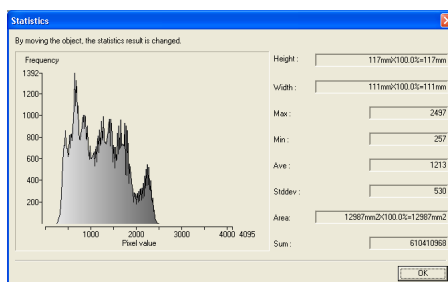
Close the Profile window.

Click [OK].

8.5.13 Statistics

To display data for the pixel values in the area selected by Rectangle, Ellipse, or Polygon:

- 1 Draw an object.
Draw an object on the image using the Rectangle (→ 111P.), Ellipse (→ 112P.), or Polygon (→ 112P.) tools.
- 2 Open the Statistics window.
Click the Statistics button.



Statistics window

Field name	Description
Height	Height of rectangle (Nothing is displayed for this field if the object is an ellipse or polygon.)
Width	Width of rectangle (Nothing is displayed for this field if the object is an ellipse or polygon.)
Max	Maximum pixel value in the area
Min	Minimum pixel value in the area
Ave	Mean of the pixel values
Stddev	Standard deviation
Area	Number of pixels contained in the area
Sum	Total number of pixel values contained in the area

- 3 Change the shape or move the drawing if necessary.
Click the drawing. To change the shape, drag the  section. To move, drag any other section.
- 4 Close the Statistics window.
Click [OK].

8.5.14 Length Calibration

If there is a distance between the subject being photographed and the X-ray detector, the image will be larger than the actual dimensions of the subject.

To correct for this, a correction value is calculated from the actual measured value of the subject and the measured value in the image. This correction value is then applied to objects (measure distance (→ 109P.), rectangle (→ 111P.), ellipse (→ 112P.), polygon (→ 112P.), detect CTR (→ 113P.), height difference (→ 115P.), measure diameter (→ 194P.)).

However, it does not apply to objects that have already been input.

In addition, the correction value applies only to the selected image. To apply a correction value to all images, specify a magnification setting as described in 8.6 Default X-ray Magnification (→ 119P.).

1 Select the Length Calibration.

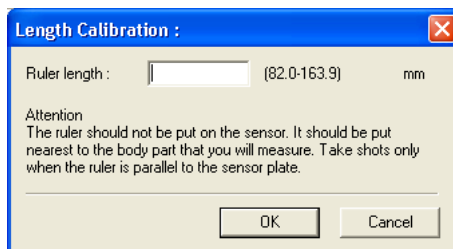
Click the Length Calibration button. The pointer changes to + over the image.

2 Determine the starting point.

Click the starting point on the image.

3 Determine the end point.

A line is drawn when the pointer is moved. Click to determine the end point. The Length Calibration window opens.



Length Calibration window

4 Enter the dimensions of the measurement object.

Enter the actual dimensions of the measurement object in the Ruler length box.

5 Close the Length Calibration window.

Click [OK].

The correction value is set.

8.5.15 Display object

This button is used to switch between display object and not display modes.

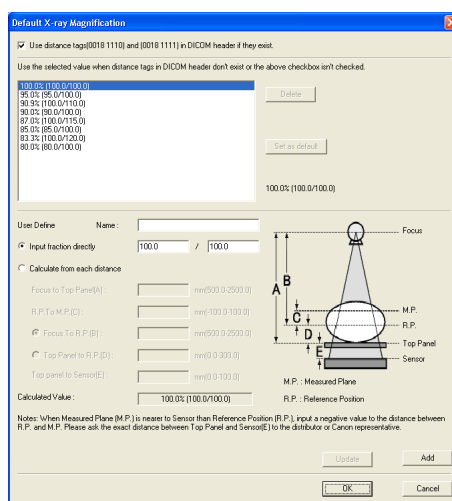
For details, see section 8.2 Displaying Objects (→ 104P.).

8.6 Default X-ray Magnification

The default X-ray magnification is not registered in the Object tool. Select it from the menu bar. Once the default X-ray magnification is set, the specified correction value is applied to objects as the default (measure distance (→ 109P.), rectangle (→ 111P.), ellipse (→ 112P.), polygon (→ 112P.), detect CTR (→ 113P.), height difference (→ 115P.), measure diameter (→ 194P.)).

However, it does not apply to objects that have already been input.

- 1 Open the Default X-ray Magnification window.
Click the commands from the menu bar in the following order.
[Object] > [Default X-ray Magnification...]



Default X-ray Magnification window

- 2 Specify correction using tags.
To specify that correction to be performed using the magnification settings in the DICOM tags of the image, check Use distance from tags (0018,1110) and (0018,1111) in DICOM header if they exist.
- 3 Input the name.
Input the name in the Name field.
This name will appear on the right in lists and in the Temporary X-ray Magnification list on the context menu.

4 Input values.

Select **Input fraction directly** or **Calculate from each distance**, and then add entries to the list of correction values as described in the table below.

To delete a value, select it, and then click **[Delete]**.

Input method	Setting method
Input fraction directly	Input values for the numerator and denominator, and then click [Add] .
Calculate from each distance	Input the various values. If you change an input value, click [Update] to update the calculated value. To add the calculated value to the list, click [Add] .

5 Select the value to be applied as the default.

Click the value to be applied as the default in the list, and then click **[Set as default]**.

The default value is displayed under **[Set as default]**.

6 Save settings.

Click **[OK]**. The settings are saved, and the window closes.

9. Report and Detail Examination

The report function is used to enter a finding (text) about the selected study, and the detail examination function is used to enter a check mark indicating that a detailed examination is required.

9.1 Setting Report Input

Before entering a report, reporting privilege must be enabled in the **User Management** menu of the DR Image Server (→ **DR Image Server Operation Manual**).

It is also necessary to make the appropriate settings for report input operations as described in **4.7.3 Report Setting** (→ 61P.).

Reporting Privilege

Reporting Privilege	Function
Checked	The user can use the Report tool to enter reports.
No Check	The Report tool is not displayed, and the user cannot enter reports. However, the user can read reports.

Report Setting

Option name		Function
Usual mode	Referring mode	When an image is displayed, the Report input mode (→ 122P.) is switched to the Referring mode.
	Report input mode	When an image is displayed, the Report input mode (→ 122P.) is switched to the Reading mode.
Check report	My report	When switching the display of the captured image without entering my report, operation is performed assuming that no report has been entered.
	Anyone's report	The Behavior when report is not finished is performed if a user has not entered a report and the image display is switched.
Behavior when report is not finished	Automatically pending	When switching display of the captured image without entering the report, pending is caused automatically.
	Auto-save "No evidence"	When switching display of the captured image without entering the report, No evidence is entered automatically. This is the same as clicking the No Evidence button (→ 122P.).
	Show pull-down menu	When switching display of the captured image without entering the report, the pull-down menu is displayed. This is the same as clicking the Pull Down Menu button (→ 122P.).
	Show report input window	When switching display of the captured image without entering the report, the Report Input window opens. This is the same as clicking the Report Window button (→ 122P.).
After selecting an item of the pull-down menu, auto-display a report input window.		If this option is checked, the Report Input window opens after the report is entered with the Pull Down Menu button.

9.2 Report Input Mode

The Report tool is used to enter reports.

The Report tool's Report input mode can be used when in Reading mode.

Click the Report input mode button on the Utility tool to switch to Report input mode.

1 Display the Report Tool.

To make the Report tool visible, click the commands from the menu bar in the following order.

[Tool] > [Report Tool]

If more than one study is displayed, select a study number as well.



Report Tool

Button	Button name	Function
	Pending	Clicking this button puts the button into the depressed state, and switches to image display without entering a report.
	No Evidence	Clicking this button adds No Evidence to the report.
	Pull Down Menu	Clicking this button displays the pull-down menu (→ 123P.) for report entry.
	Report Window	Clicking this button opens the Report Input window (→ 125P.).

2 Display the Utility Tool.

When the Utility tool is not displayed, click the commands from the menu bar in the following order.

[Tool] > [Utility Tool]



Utility Tool

3 Switch the mode.

If the Report input mode button indicates Referring mode, click it to switch to Reading mode.

Button	Mode	Function
	Reading mode	The Report tool is available.
	Referring mode	The Report tool is not available.

9.3 Entering Reports

There are two ways to enter reports. Either use the pull-down menu or the Report Input window. If a report has been entered, a check mark (☑) appears in the My Report column of the Patient tab on the Worklist.



Operation when entry of a report is not finished

If you switch the image display to another patient or to the Worklist Display mode without entering a report, the Behavior when report is not finished specified in 4.7.3 Report Setting (→ 61P.) is performed.

9.3.1 Entering report using the pull-down menu

Clicking the Pull Down Menu button displays the pull-down menu. When a menu option is selected, the Report Input window opens, and the report is entered automatically.

1

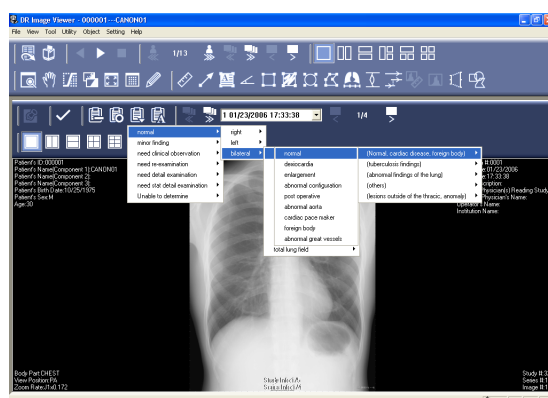
Show the pull-down menu.

Click the Pull Down Menu button (☰) in the Report tool.

2

Select the menu option.

The menu options contain submenus. Follow the submenus, and click the desired option.

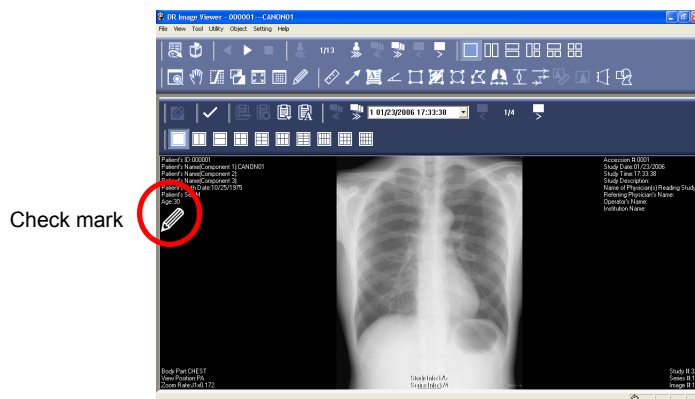


Selecting Input Options

3 Determine the input information.

Click the menu option at the lowest level of the menu to enter a report.

Once a report has been entered, a check mark appears at the left edge of the image, and the Pending and No Evidence buttons are no longer clickable.

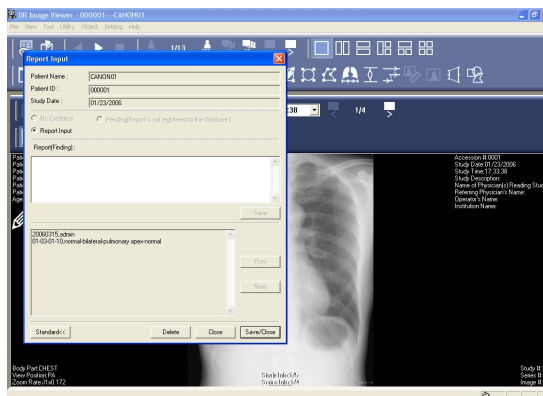


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Automatic display of the Report Input window

If After selecting an item of pull-down menu, auto-display a report input window in section 4.7.3 Report Setting (→ 61P.) is checked, the Report Input window opens and the selected options are automatically entered in the Report display column.

To save, click [Save/Close].



Display of report

9.3.2 Entering report using the Report Input window

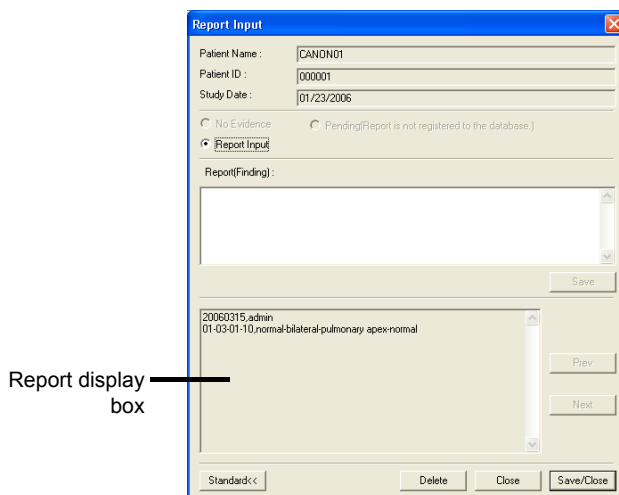
The Report Input window has two modes. Click [Standard<<] / [Extension>>] to switch between them.

In Standard mode, enter the report into the study currently being displayed.

In Extension mode, reports entered by all users can be displayed.

1 Open the Report Input window.

Click the Report Window button () of the Report tool.



Report Input window (Extension Mode)

2 Enter the report.

Select the input method.

Option name	Function
No Evidence	Adds No Evidence to the report. The  button of the Report tool remains in the depressed state.
Pending	Input is put on hold. The  button of the Report tool remains in the depressed state.
Report Input	Selecting this option allows you to enter text in the Report (Finding) box. This is selected automatically if you click inside the box. When [Save] is clicked, the entered text is displayed in the Report display column (Extension mode).

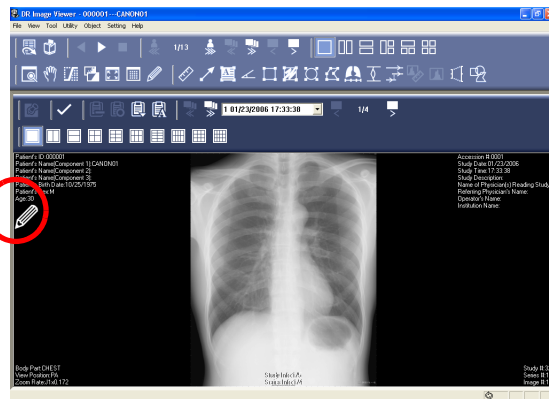
3 Close the Report Input window.

Click [Save/Close].

Once a report has been entered, a check mark appears at the left edge of the image, and the Pending and No Evidence buttons are no longer clickable.

However, if **No Evidence** is selected, a check mark appears the next time the study is displayed.

Check mark

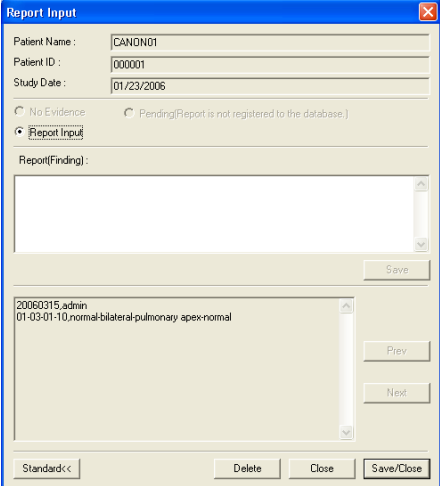


Check mark

9.4 Deleting Reports

To delete a report that you entered:

- 1 Open the Report Input window.
Click the Report Window button () of the Report tool.



Report Input window (Extension Mode)

- 2 Select the Extension mode.
Click [Standard<<] / [Extension>>] to display [Standard<<].
- 3 Select the report.
Click [Prev] or [Next] to select your report.
After your report is selected, [Delete] is available.
- 4 Delete the report.
Click [Delete]. The following warning is displayed:
This operation will delete all of your reports that have been written for this study.
Once you delete the reports, you may need to input the report again. Do you really want to delete your reports?
Click [OK].

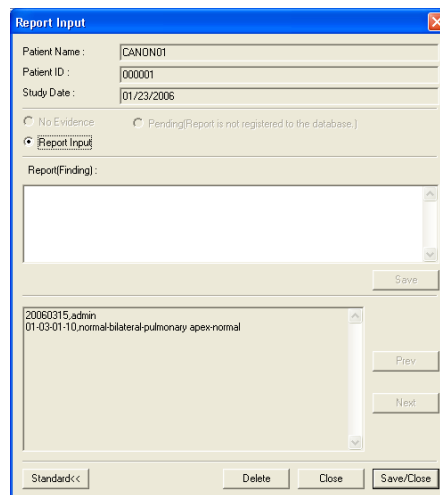
9.5 Browsing Reports

There are two ways to browse reports. Either use the Report Input window or the Show Report window.

However, reporting privilege must be enabled to browse reports in the Report Input window.

9.5.1 Browsing from the Report Input window

- 1 Open the Report Input window.
Click the Report Window button () of the Report tool.

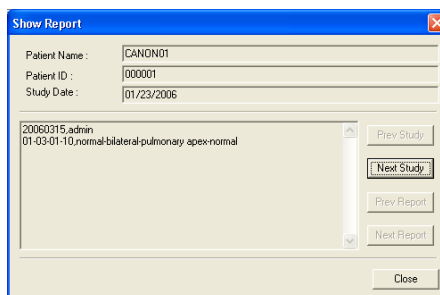


Report Input window (Extension Mode)

- 2 Browse a report.
Click [Prev] or [Next] to browse a report.
- 3 Close the Report Input window.
Click [Close].

9.5.2 Browsing from the Show Report window

- 1 Open the Show Report window.
Click the commands from the menu bar in the following order.
[View] > [Study Report...]



Show Report window

- 2 Browse a report.
Click [Prev Report] ([Prev Study]) or [Next Report] ([Next Study]) to browse a report.
- 3 Close the Report Input window.
Click [Close].

9.6 Detail Examination

To add a Detail Examination check mark to a study requiring detailed examination:

1 Display the Detail Examination tool.

To make the Detail Examination tool visible, click the commands from the menu bar in the following order.

[Tool] > [Detail Examination]

If more than one study is displayed, select a study number as well.



Detail Examination tool

2 Add a check mark to the study.

If the study requires a detailed examination, click the Detail Examination button.

A ☒ appears in your check column in Worklist Display mode.

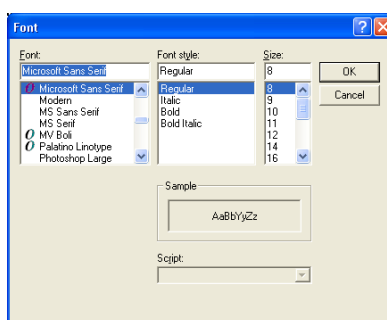
10. Setting Image Display Mode

This chapter describes the menus that are available from [Setting] in the menu bar.

10.1 Setting the Object Font

To specify the font displayed when using the Object tool (→ 108P.) to draw shapes on an image:

- 1 Open the Font window.
Click the commands from the menu bar in the following order.
[Setting] > [Draw Object Font...]



Font window

- 2 Set the font.

Option name	Function
Font	Select the font type.
Font style	Select the font style.
Size	Select the font size.
Script	Click ▼ to display the list, and then select the script.

- 3 Enable the setting.
Click [OK].
The Font window closes, and the screen font is changed.



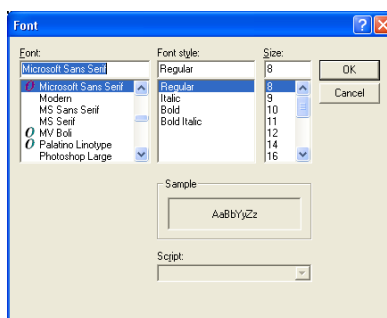
When characters are not displayed correctly

It may not be possible to display the entire window on the screen if the font size is too large.

10.2 Setting the Text Font

To specify the font displayed when using Text (→ 110P.) to superimpose text on an image:

- 1 Select the text box.
Click the text box entered using the Text.
- 2 Open the Font window.
Click the commands from the menu bar in the following order.
[Setting] > [Text Font...]



Font window

- 3 Set the font.

Option name	Function
Font	Select the font type.
Font style	Select the font style.
Size	Select the font size.
Script	Click ▼ to display the list, and then select the script.

- 4 Enable the setting.
Click [OK].
The Font window closes, and the screen font is changed.



When characters are not displayed correctly

It may not be possible to display the entire window on the screen if the font size is too large.

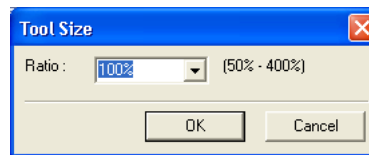
10.3 Making Toolbar Settings

You can enter settings specifying the size of the toolbar and the buttons displayed on it.

10.3.1 Setting the Toolbar Size

To set the toolbar size:

- 1 Open the Tool Size window.
Click the commands from the menu bar in the following order.
[Setting] > [Tool] > [Size...]



Tool Size window

- 2 Set the ratio.
Click ▾, and then select a size ratio either from the dropdown list or by entering a number between 50 and 400.
- 3 Enable the setting.
Click [OK].
The window closes, and the tool bar is resized.



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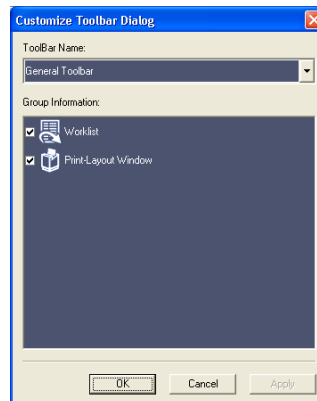
When the entire window cannot be displayed in the screen

When the toolbar size is enlarged, the entire window may not be displayed in the screen.

10.3.2 Making button display settings

To specify which buttons are displayed on the toolbar:

- 1 Open the Customize Toolbar window.
Click the commands from the menu bar in the following order.
[Setting] > [Tool] > [Show/Hide Button...]



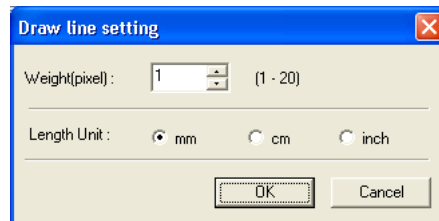
Customize Toolbar window

- 2 Select a toolbar.
Click the ▼ under Toolbar name and select a toolbar from the dropdown list.
Icons are displayed in the Group Information area.
- 3 Select the buttons to be displayed.
Check the buttons to be displayed in the toolbar.
- 4 Enable the setting.
Click [Apply] to enable the setting with the window opened, and click [OK] to enable the setting and close the window.

10.4 Setting the Line Format

To specify the line format used when using the Object tool (→ 108P.) to draw shapes on an image:

- 1 Open the Draw line setting window.
Click the commands from the menu bar in the following order.
[Setting] > [Line...]



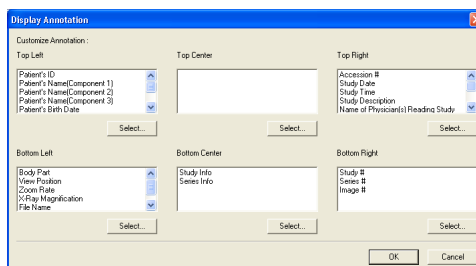
Draw line setting window

- 2 Set the weight.
Either click ▼ or ▲ to set the weight, or enter the value in the range from 1 to 20 (pixels).
- 3 Set the length unit to be used.
Select mm, cm, or inch.
- 4 Enable the setting.
Click [OK].
The window closes, and the drawing line format is changed.

10.5 Setting the Annotation

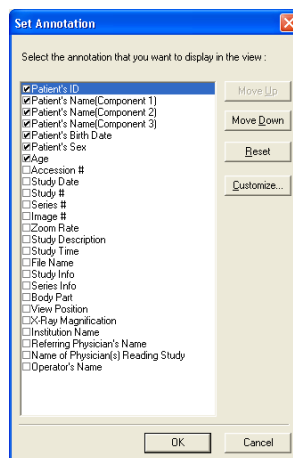
To specify settings for annotations of study and patient information displayed when browsing images:

- 1 Open the Display Annotation window.
Click the commands from the menu bar in the following order.
[Setting] > [Display Annotation...]



Display Annotation window

- 2 Open the Set Annotation window.
Click [Select...] of the position where the annotation is displayed.



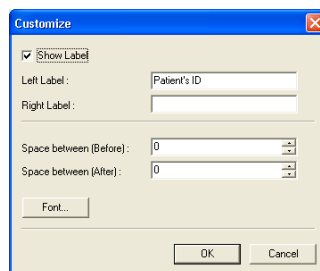
Set Annotation window

- 3 Select the display item for annotation.
Check the annotation item to be displayed, and then set the display order and so on.

Button	Function
Move Up	Move the selected item name up.
Move Down	Move the selected item name down.
Reset	Reset the settings to the one when the Set Annotation window was opened.
Customize...	You can make detailed settings for the selected item. Click [Customize...] to open the Customize window and specify the font and other settings.

4 Set detailed parameters for the checked item.

Click [Customize...] to open the Customize window, and then set parameters.



Customize window

Option name	Function
Show Label	Checking this allows you to set the left and right labels.
Left Label	Enter the character string (max. 64 bytes) to be displayed on the left of the value. A colon (:) is inserted between the character string and the value. For example, entering "Patient" will display "Patient: CANON TAROU". No colon is displayed if nothing is entered.
Right Label	Enter the character string (max. 64 bytes) to be displayed on the right of the value. No delimiter is inserted between the character and the value.
Space between (Before) Space between (After)	Allows you to specify the number of null line(s) below or above the selected label name. Enter a number of lines, 0-9, or click ▲ or ▼ to set the number.
[Font...]	Click [Font...] to open the Font window (→ 45P.), and then select the font to be used.

5 Close the Customize window.

Click [OK].

6 Close the Set Annotation window.

Click [OK].

The window closes and the selected items are displayed in the box.

7 Enable the setting.

Click [OK] in the Display Annotation window.

This closes the Display Annotation window and enables the setting.

10.6 Image Display

Note: If a setting other than Pixel to pixel display is selected, the image is displayed with some data partially missing when the image is reduced in size.

To enter settings for displaying images:

1 Open the Image Display window.

Click the commands from the menu bar in the following order.

[Setting] > [Image Display...]

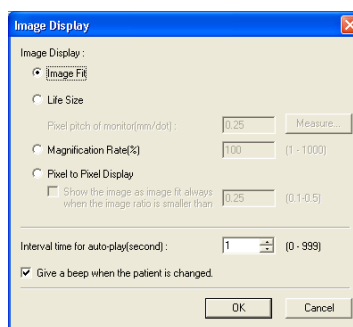


Image Display window

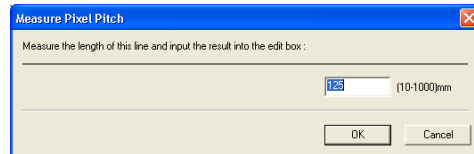
2 Set the parameters.

Option name		Function
Image Display	Image Fit	Displays the entire image so that it fits into the display area.
	Life Size	Measure the line displayed on the monitor, and enter a value. The pixel pitch of the monitor will be calculated automatically and the image display size changed.
	Magnification Rate (%)	Displays the image at the set magnification rate, assuming a magnification rate of 100% for pixel to pixel display. The default value is 100.
	Pixel to Pixel Display	Displays the image using one pixel on the monitor for each pixel of the image.
	Show the image as image fit always when the image ratio is smaller than	This option can be selected only when Magnification Rate (%) or Pixel to Pixel Display is selected. When this option is checked, a setting value can be entered. Enter the display image ratio in the box within the range from 0.1 to 0.5. The default value is 0.25.
Interval time for autoplay (second)		Click ▼ or ▲ to set the display time for a single image during auto play (→ 76P.) to a value of 0 to 999 (seconds).
Give a beep when the patient is changed		When this option is checked, a beep sounds when the image is changed automatically.



Measurement When Life Size is Selected

After selecting Life Size, click [Measure...] to open the Measure Pixel Pitch window. Measure the length of the line displayed in the window by a scale, input the measured value, and then click [OK]. The monitor pixel pitch is calculated automatically and displayed in the Image Display window.



Measure Pixel Pitch window

3

Enable the setting.

Click [OK].

The window closes, and images are displayed using the new display conditions.

10.7 Monitor Gamma Correction

Note: Do not check Monitor Gamma Correction if the monitor uses hardware gamma correction.

Note: If the monitor has a calibration tool, use this tool to make adjustments.

In images output from the CXDI, the density characteristics for gradations (0 to 4095) are expressed in terms of a logarithm. The monitor, however, expresses gradations using linear density characteristics. As a result, the image density characteristics must be converted to properly display an image having logarithmic density characteristics on the monitor.

This is called log linearization.

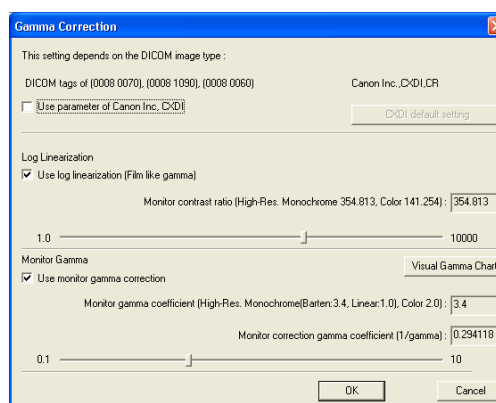
The gamma settings for the monitor differ for images that use P-values and images that do not use P-values.

10.7.1 Images without P-values

1 Open the Gamma Correction window.

Click the commands from the menu bar in the following order.

[Setting] > [Gamma Correction] > [For Not P-Value image...]



Gamma Correction window

2 Set the parameters depending on the DICOM image type.

Setting item	Function
Use Parameter of Canon Inc, CXDI	Checking this option enters 354.813 as the initial value for Monitor contrast ratio and 3.4 as the value for Monitor gamma coefficient. However, if the values are changed, the new values are used from that point on. In addition, Use Log linearization and Use monitor gamma correction are checked automatically and cannot be unchecked.
[CXDI default setting]	When depressed, Monitor contrast ratio and Monitor gamma coefficient settings can be entered.

3 Set Log Linearization.

To enable Log Linearization, check **Use log linearization (Film like gamma)**, and then drag the slider to set the contrast ratio for the monitor being used.

Note that if “**Use parameter of Canon Inc. CXDI**” was checked in **step2**, depress [**CXDI default setting**] to set the Monitor contrast ratio.

4 Set Monitor Gamma.

To enable Monitor Gamma, check **Use monitor gamma correction**, and then drag the slider to set the monitor gamma coefficient.

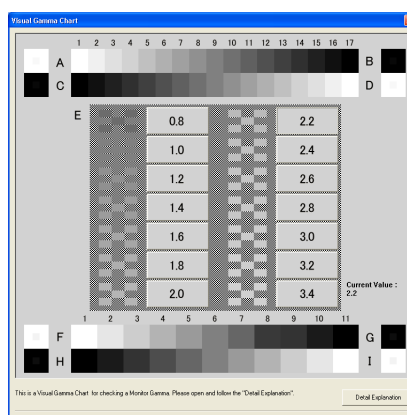
The monitor correction gamma coefficient (inverse of the monitor gamma coefficient) is automatically displayed.

Note that if “**Use parameter of Canon Inc. CXDI**” was checked in **step2**, depress [**CXDI default setting**] to set the Monitor correction gamma coefficient.

5 Check the Visual Gamma Chart.

Click [**Visual Gamma Chart**] to open the Visual Gamma Chart window. Check how the chart is displayed.

To refer to the explanation of the Visual Gamma Chart window, click [**Detail Explanation**]. To close the window, click [**Cancel**].



Visual Gamma Chart window



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Gamma Correction

Refer to the chart, and adjust the monitor brightness and contrast so that the brightness of the display has the proper balance.

In particular, adjust them so that the gray squares in  and  (A and C) at the top left are shown with the same balance. (You may also use any one of the combinations of B and D, F and H, or G and I.)

After adjusting the contrast and brightness, view the E chart from a distance, and set the monitor gamma coefficient to the value where the color of the five squares in the chart blends with the surrounding color.

6 Enable the setting.

Click [OK].

The Gamma Correction window closes, and images are displayed using the new display conditions.

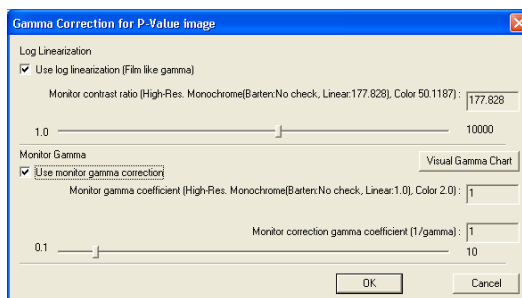
10.7.2 Images with P-values

1

Open the Gamma Correction for P-Value image window.

Click the commands from the menu bar in the following order.

[Setting] > [Gamma Correction] > [For P-Value image...]



Gamma Correction for P-Value image window

2

Set Log Linearization.

To enable Log Linearization, check **Use log linearization (Film like gamma)**, and then drag the slider to set the contrast ratio for the monitor being used.

3

Set Monitor Gamma.

To enable Monitor Gamma, check **Use monitor gamma correction**, and then drag the slider to set the **monitor gamma coefficient**.

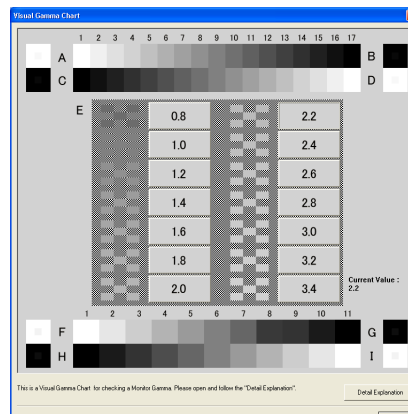
The **monitor correction gamma coefficient** (inverse of the monitor gamma coefficient) is automatically displayed.

4

Check the Visual Gamma Chart.

Click [Visual Gamma Chart] to open the Visual Gamma Chart window. Check how the chart is displayed.

To refer to the explanation of the Visual Gamma Chart window, click [Detail Explanation]. To close the window, click [Cancel].



Visual Gamma Chart window



Gamma Correction

Refer to the chart, and adjust the monitor brightness and contrast so that the brightness of the display has the proper balance.

In particular, adjust them so that the gray squares in  and  (A and C) at the top left are shown with the same balance. (You may also use any one of the combinations of B and D, F and H, or G and I.)

After adjusting the contrast and brightness, view the E chart from a distance, and set the monitor gamma coefficient to the value where the color of the five squares in the chart blends with the surrounding color.

5 Enable the setting.

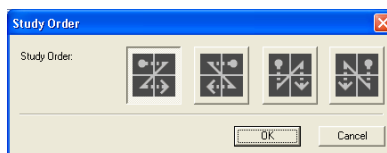
Click [OK].

The Gamma Correction for P-Value image window closes, and images are displayed using the new display conditions.

10.8 Setting the Study Order

To specify the study display order when Study Multi-format Tool is used.

- 1 Open the Study Order window.
Click the commands from the menu bar in the following order.
[Setting] > [Study Order...]



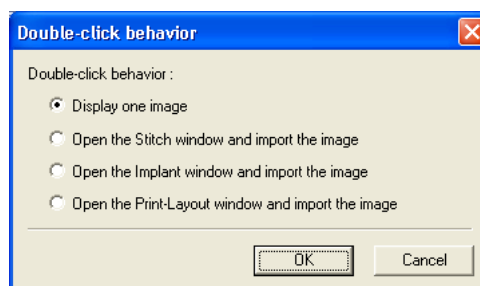
Study Order window

- 2 Set the display order.
Click either button.
If the Three studies button on the Study toolbar is selected, the images displayed on the left and right may be reversed.
- 3 Enable the setting.
Click [OK].
The window closes, and the studies are displayed in the display order that was set.

10.9 Setting Double-Click Behavior

To specify the behavior that occurs when you double-click an image in Image Display mode:

- 1 Open the Double-click behavior window.
Click the commands from the menu bar in the following order.
[Setting] > [Double-click behavior...]



Double-click behavior window

- 2 Select the desired behavior.

Option name	Function
Display one Image	When multiple images are displayed, only the image the user double-clicks is displayed.
Open the Stitch window and import the image	The Stitch window (→ 161P.) opens with the image inserted in it.
Open the Implant window and import the image	The Implant window (→ 181P.) opens with the image inserted in it.
Open the Print-Layout window and import the image	The Print-Layout window (→ 89P.) opens with the image inserted in it.



Behavior when a window is already open

If the Stitch, Implant, or Print-Layout window is already open, double-clicking an image causes it to be inserted into the open window, regardless of the double-click behavior setting.

10.10 Making Print Object Settings

When outputting images to the printer, set the object font and line properties in such a way that the object display size is optimized.

10.10.1 Setting the Object Font

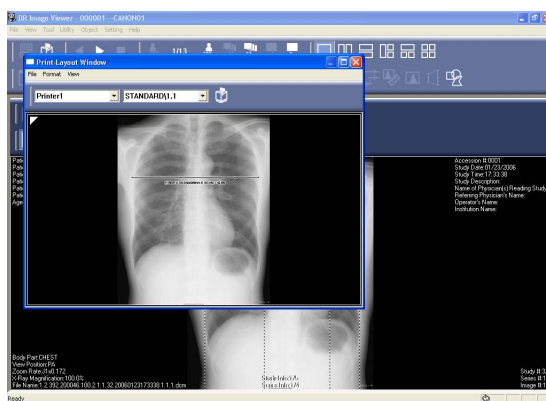
To change the text font displayed on objects:

This setting does not affect the font for text entered using the Text (→ 110P.) tool.

1 Open the Print-Layout window.

The effect of the settings can only be previewed in the Print-Layout window. Refer to 7.1 Outputting to Printer (→ 89P.), open the Print-Layout window, and then perform image layout.

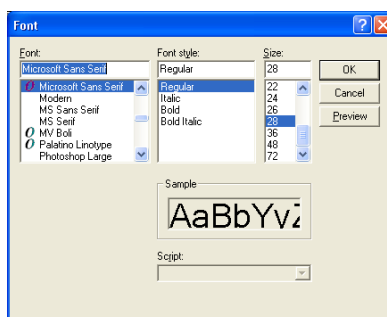
Do not use the full screen display mode.



2 Open the Font window.

Click the commands from the menu bar in the following order.

[Setting] > [Print Draw Object] > [Font...]



Font window

3 Set the font.

Option name	Function
Font	Select the font type.
Font style	Select the font style.
Size	Select the font size.
Script	Click ▼ to display the list, and then select the script.

4 Display a preview.

Click [Preview]. The new font setting is used in the Print-Layout window display.

5 Enable the setting.

Click [OK]. The settings take effect, and the Font window closes.

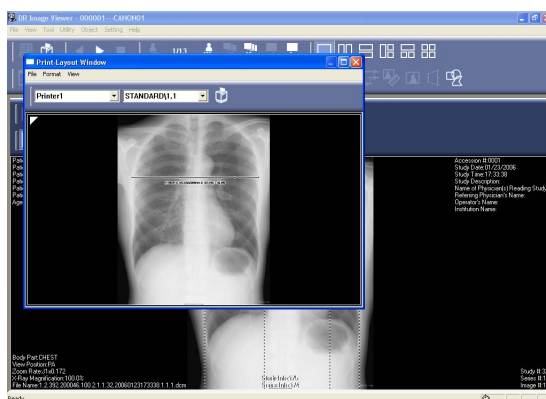
10.10.2 Setting the line format

Change the line weight.

1 Open the Print-Layout window.

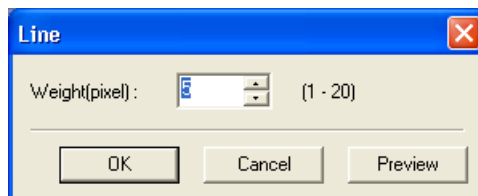
The effect of the settings can only be previewed in the Print-Layout window. Refer to 7.1 Outputting to Printer (→ 89P.), open the Print-Layout window, and then perform image layout.

Do not use the full screen display mode.



Continued on the following page >>

- 2 Open the Line window.
Click the commands from the menu bar in the following order.
[Setting] > [Print Draw Object] > [Line...]



Line window

- 3 Set the weight.
Either click ▼ or ▲ to set the weight, or enter the value in the range from 1 to 20 (pixels).
- 4 Display a preview.
Click [Preview]. Drawn lines are displayed using the new settings in the Print-Layout window.
- 5 Enable the setting.
Click [OK]. The settings take effect, and the Line window closes.

10.11 Setting the storage drawn objects

When outputting images to storage, set the object font and line properties in such a way that the object display size is optimized.

10.11.1 Setting the Object Font

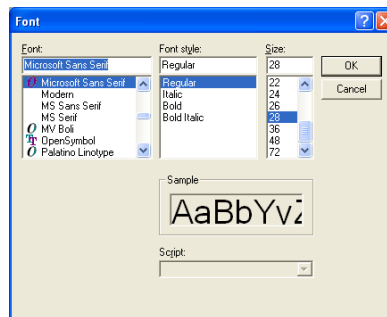
To change the text font displayed on objects:

This setting does not affect the font for text entered using the Text (→ 110P.) tool.

1 Open the Font window.

Click the commands from the menu bar in the following order.

[Setting] > [Storage Draw Object] > [Font...]



Font window

2 Set the font.

Option name	Function
Font	Select the font type.
Font style	Select the font style.
Size	Select the font size.
Script	Click ▼ to display the list, and then select the script.

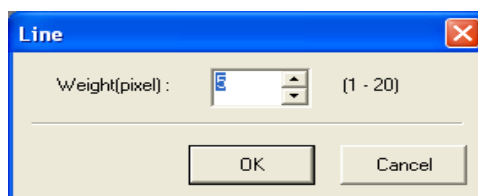
3 Enable the setting.

Click [OK]. The settings take effect, and the Font window closes.

10.11.2 Setting the line format

Change the line weight.

- 1 Open the Line window.
Click the commands from the menu bar in the following order.
[Setting] > [Storage Draw Object] > [Line...]

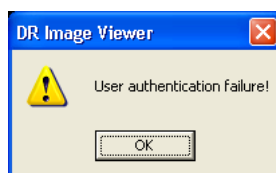


Line window

- 2 Set the weight.
Either click ▼ or ▲ to set the weight, or enter the value in the range from 1 to 20 (pixels).
- 3 Enable the setting.
Click [OK]. The settings take effect, and the Line window closes.

11. Error Messages

Error messages are displayed when any type of malfunction occurs.
Check the information, and take the appropriate remedy.



Examples of displayed messages

Message	Cause	Remedy
This computer does not have an operation privilege in destination. Please set an operation privilege for this computer by using the System Administrator in destination.	The trial period has ended.	Perform the license registration.
	The computer does not have a registered license.	Register the computer in the DR Image Server.
	Operating privileges have not been assigned to the computer.	Assign operating privileges in the DR Image Server.
User authentication failure!	The user name or password entered in the Connection to the server window is incorrect.	Enter the correct user name or password.
	User privileges have not been assigned to the user.	Assign user privileges in the DR Image Server.
No Alignment Marks in some Images!	Either markers did not appear on the image where Auto Alignment (→ 165P.) was performed, or the number of markers did not match.	Manually position the images. For the image conditions where Auto Alignment is possible, refer to Notes on Stitch (→ 160P.).
Alignment Marks Numbers are not Fit!		
Alignment Marks Distances are not Fit! The Tolerance of the Distance Difference is (allowable range) Pixels! Now the Distance Difference is (distance between marks!) Pixels!	Two markers appeared at a distance exceeding the allowable distance range.	
Database Link Failure!	You tried to enter the wrong server name to be connected.	Enter the right server name or check if the SQL Server service is started.

12. Browsing the Event Viewer

To display output results to the printer and storage:

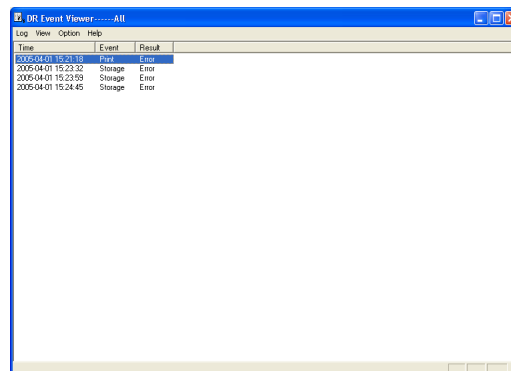
12.1 Displaying Event Viewer

12.1.1 Displaying the Event Viewer

Click the commands from the taskbar in the following order.

[Start] > [All Programs] > [Canon Medical] > [DR Image Viewer] > [DR Event Viewer]

Open the DR Event Viewer window.



DR Event Viewer window



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Update the list

The information displayed in the list is based on when the DR Event Viewer was opened.

To display an updated list of the latest results, perform one of the following operations.

- Press the F5 key on the keyboard.
- Right-click on the list, and then click [Refresh].
- Click the commands from the menu bar in the following order.
[View] > [Refresh F5]

12.1.2 Selecting the event to display

This is used to select display option in the output results.

Click [View] in the menu bar, and then click [All Events] (both printer and storage), [Print Events] (printer only), or [Output Events] (storage only).



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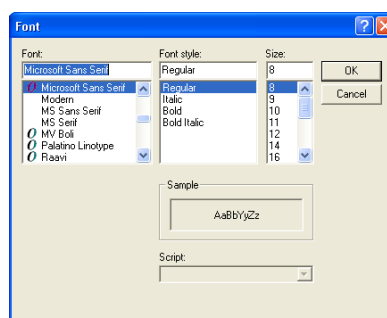
Storage of logs

The event log only saves events selected in the log storage settings (→ 50P.).

12.1.3 Setting the font

To specify the list display font:

- 1 Open the Font window.
Click the commands from the menu bar in the following order.
[Option] > [Font...]



Font window

Option name	Function
Font	Select the font type.
Font style	Select the font style.
Size	Select the font size.
Script	Click ▼ to display the list, and then select the script.

- 2 Enable the setting.
Click [OK].
The Font window closes, and the screen font is changed.



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When characters are not displayed correctly

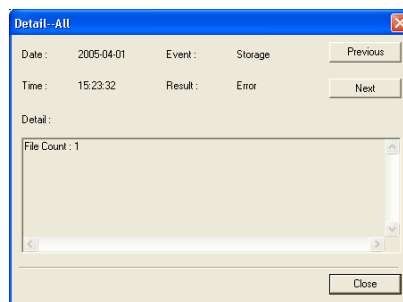
It may not be possible to display the entire window on the screen if the font size is too large.

12.2 Event Operations

It is possible to view and delete events.

12.2.1 Viewing Event Details

- 1 Select the events.
Click the event whose details you want to view in the list.
- 2 Open the Detail All window.
Perform one of the following operations.
 - Press the **Enter** key on the keyboard.
 - Right-click on the list, and then click **[Detail...]**.
 - Click the commands from the menu bar in the following order.
[View] > [Detail...]
 - Double-click an event in the list.



Detail All window

- 3 Change the list view.
Click **[Previous]** or **[Next]** to change the displayed event in the listed sequence.

12.2.2 Deleting All Events

- 1 Select the Delete All Events.
Either right-click on the list and click **[Delete All Events]**, or click the commands from the menu bar in the following order.
[Log] > [Delete All Events]
- 2 Delete the events.
The message **Do you want to delete all event's information in the database?** is displayed. Click **[OK]**.

12.2.3 Deleting the selected events

- 1** Select the events.
Click the events that you want to delete in the list.
- 2** Select the Delete.
Perform one of the following operations.
 - Press the **Delete** key on the keyboard.
 - Right-click on the list, and then click **[Delete Selected Event]**.
 - Click the commands from the menu bar in the following order.
[Log] > [Delete]
- 3** Delete the events.
The message Do you want to delete the selected event's information in the database? is displayed. Click **[OK]**.

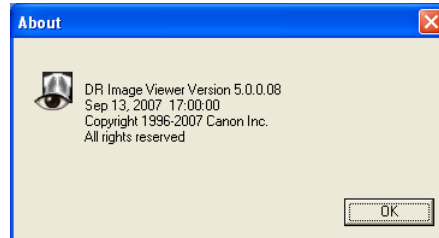


Maximum number of saved events

To set the maximum number of events to be saved, see section 4.6.2 Record Setting (→ 51P.).

12.3 Displaying Version Information

- 1 Open the Version About window.
Click the commands from the menu bar in the following order.
[Help] > [About...]



Version Information window

- 2 Close the About window.
Click [OK].

A. Stitch

A license is required to use the Stitch function.

For how to purchase the license, contact the distributor or Canon representative where you purchased this software.

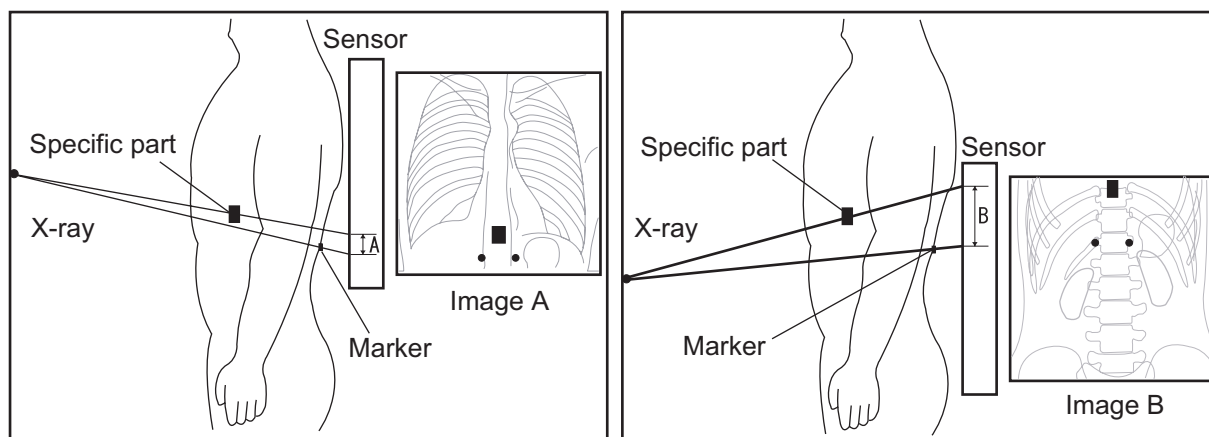
Notes on Stitch

Parallax when Capturing

When lengthwise shots are taken several times, parallax can occur in the overlap of images due to the capture method, resulting in mismatching shapes of anatomical structures.

If the images overlap, take the shots so that parallax does not occur in the images to overlap.

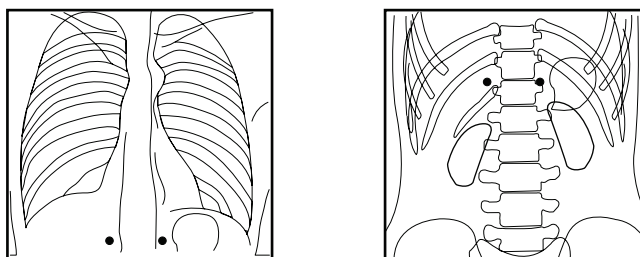
In the figures below, the difference between the distance of A in the left figure and B in the right figure is parallax.



Using Markers When Capturing

To use the Auto Alignment function, note the following points when capturing images.

- Prepare spherical objects with a diameter of 4 to 5 mm that does not allow X-rays to pass through as the markers.
- Paste markers to the subject (position near the target part to be captured).
Paste them in order that the two markers appear on both captured images.
Also, paste them in order that the markers appear clearly on the captured image.



- Take shots so that the subject does not move between the two shots.
If necessary, use an equipment to keep the subject stationary when taking the shots.

Auto Alignment Function

The Auto Alignment function in this software detects the two markers appearing on the two (or four) captured images and automatically places the images so that the markers overlap. It is not a function for adjusting the positions of anatomical structures themselves.

Therefore, there are some cases where the overlapping is not accurate, so after performing Auto Alignment, be sure to always check how the images overlap. Then, readjust the positions manually if necessary.

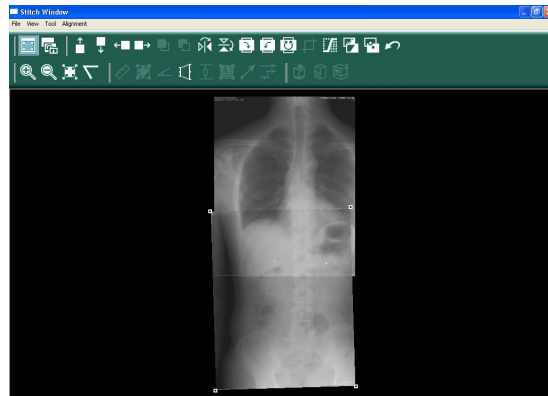
In particular, if using the Measurement tools, enlarge the overlapping area before measurement, and be sure to always check how the images overlap.

A. Stitch

A.1 About the Stitch Function

A.1.1 What is the Stitch function?

Stitch is a function that is used to bring multiple images together with overlapping areas, and it is performed in the Stitch window.



Stitch window

A.1.2 About tool operations

The tools in the Stitch window work in basically the same manner as those in Image Display mode.

To show or hide the toolbar, click [Tool] on the menu bar, and then click the respective toolbar name.

A check mark is added to the name of the displayed toolbar.

In addition, each tool can be changed to a floating state (**tool window) by dragging or double-clicking the | at the left.

To cancel the floating state, double-click the title bar at the top of the window (section displayed as the ** Tool).

A.2 Overlapping Images

A.2.1 Positioning images

Note: Only up to three images that have the same patient ID and have been taken within 24 hours can be aligned automatically.

Note: Deleting an image from the Stitch window does not delete the original image file in the storage folder.

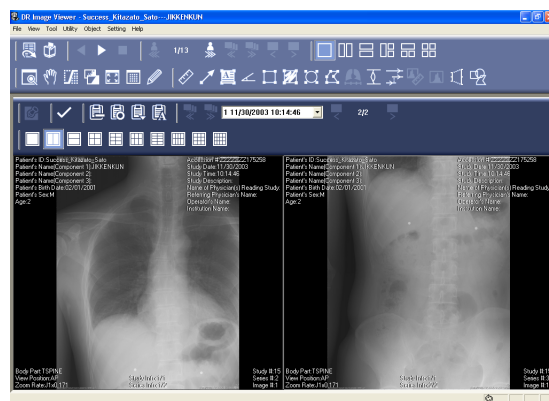
To open the Stitch window, and then arrange the images so that they overlap:

1

Set to Image Display mode.

Refer to 5. Displaying Images (Image Display Mode) (→ 67P.) for information on how to display images.

It can save time to use the Image Multi-format tool (→ 75P.) to display the images to be superimposed beforehand.

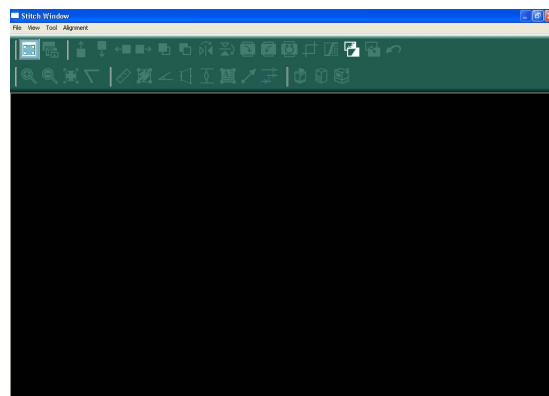


2

Open the Stitch window.

Click the commands from the menu bar in the following order.

[File] > [Stitch Window...]



Stitch window



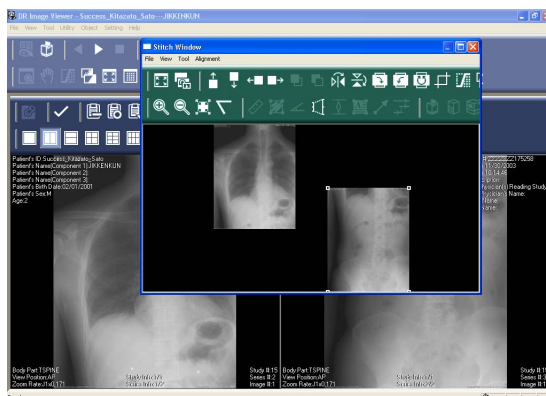
Behavior after double-click

If Open Stitching window and insert image is selected under Double-click behavior, as described in 10.9 Setting Double-Click Behavior (→ 145P.), double-clicking an image causes the Stitch window to open with the image displayed in it.

3

Display the images in the Stitch window.

Either double-click the images or drag them to the stitch window.



Navigate Monitor

When the Stitch window cannot display the image in the entire image display area, the Navigate Monitor window can open to check the image display position if the Navigate Monitor window is set to Auto-Display.

To set to Auto-Display, click [View] > [Navigation Window] from the menu bar, and check [Auto-Display].



Deleting images

To delete an image from the Stitch window, click the image, and then perform one of the following operations.

- Press the **Delete** key on the keyboard.
- Select [Delete Selected Items] from the context menu (→ 177P.).
- Click the commands from the menu bar in the following order.
[Alignment] > [Delete Selected Items]

Alternately, to delete all of the images currently displayed in the Stitch window, click the commands from the menu bar in the following order.

[File] > [New].

A.2.2 Aligning the Image Positions

There are two methods of aligning image positions – automatic alignment by the Auto Alignment function and manual alignment by the Alignment tools.

A.2.2.1 Before aligning the image positions

The Stitch window has two modes, **Alignment mode** and **Fix mode**. Click the Switch Mode Button to switch between them.

Button	Mode	Function
	Alignment mode	This mode is used to adjust the position of images. Images in the window are adjusted individually.
	Fix mode	This mode executes the measurement and output of the image. This fixes the position of images before performing various operations.

Images can be displayed in two ways: either Semitransparent or Superimposed. Specify the display mode by selecting [Alignment] > [Display Method] on the menu bar, and then clicking [Half Transparent] or [Stack].

Display method	Function
Half Transparent	Images are displayed in a manner similar to semitransparent X-ray film.
Stack	In places where images are superimposed so that two overlap, only the top image is displayed. Image Adjustment tool's Change Up and Change Down buttons can be used to select which image is displayed in the overlapping area.

When the Auto Alignment function is used, image alignment is performed based on the marker positions. Therefore, care should be taken to ensure that the vertical arrangement of the images is correct.

An example of the results of auto alignment of three images is shown below. Image 1, with markers below the center, is positioned at the top; image 3, with markers above the center, is arranged at the bottom; and image 2 is left in its original position.

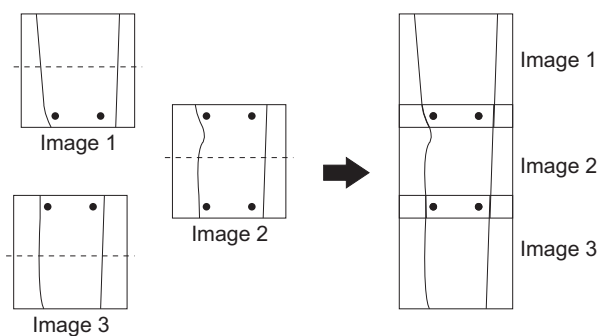


Image alignment example

A.2.2.2 Auto Alignment

Note: To use Auto Alignment, check that the markers appear on the image that will be overlapped.

This function is not available when there are no markers appeared on the image.

1 Perform the Auto Alignment.

Either click the Auto Alignment button  or click the commands from the menu bar in the following order.

[Alignment] > [Auto Alignment]

A window opens, and the message **Aligning. Please wait a moment** is displayed to indicate that alignment is being performed.

Status	Operation
Auto Alignment is successful	A window opens, and the message The alignment is finished successfully. Please switch to "Fix Mode" after fine alignment. is displayed. Click [OK] to close the window, and then go to Step 3.
Auto Alignment fails	A window opens, and the error message is displayed. Click [OK] to close the window, and then check the image.



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Repositioning images manually

Refer to A.2.2.3 Manual Alignment (→ 166P.) for the procedure for repositioning images manually after performing auto alignment.

2 Determine the image positions.

Click the Switch Mode Button to set to Fix mode.



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Displaying entire images

Click the Image Fit button  to display the image in their entirety within the viewing frame.

A.2.2.3 Manual Alignment

1

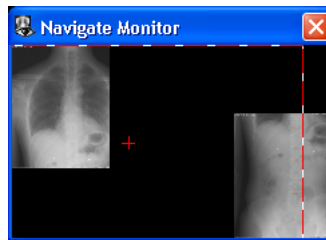
Move the image.

Drag the images horizontally or vertically to overlap.



If images extend outside the viewing frame

If portions of the images extend outside the edges of the Stitch window, click [View] > [Navigation Window] > [Show Monitor] from the menu bar to open the Navigate Monitor window.



The frame in the Navigate Monitor window (if color monitor, displayed in red) shows the image display frame of the Stitch window, and the cross (if color monitor, displayed in red) shows the center of the image display frame.

When the pointer is moved to the Navigate Monitor window, the pointer changes to . Dragging the pointer moves the image.

2

This enlarges the image.

Enlarge the image to a size that is big enough to view the overlapping area.

3

Fine adjust the image position.

Use the Image Adjustment tool (→ 167P.) to make adjustments to images.

4

Fix the image position.

Click the Switch Mode button (→ 164P.) to set to Fix mode.

A.2.3 Closing the Stitch window

To close the Stitch window, click the commands from the menu bar in the following order.
[File] > [Close]

A.3 Adjusting Images (Image Adjust Tool)

This tool is used adjusting the alignment of images.



Button	Button name	Function	Shortcut
	Move Up	Move the image one dot upward.	↑
	Move Down	Move the image one dot downward.	↓
	Move Left	Move the image one dot to the left.	←
	Move Right	Move the image one dot to the right.	→
	Change Up	Move the image to the front.	Page Up
	Change Down	Move the image to the back.	Page Down
	Left/Right	Flip the right and left sides of the image.	
	Up/Down	Flip the top and bottom of the image.	
	90 Degree (CW)	Rotate the image 90 degrees in the clockwise direction.	
	-90 Degree (CCW)	Rotate the image 90 degrees in the counter-clockwise direction.	
	Free Rotation	Rotate the image in any selected direction. For details, see section A.3.1 Rotating the image (Free rotation) (→ 168P.).	
	Crop Image	Crop the image. For details, see section A.3.2 Cropping the image (→ 168P.).	
	WW/WL	Change the density. For details, see section A.3.3 Changing the density (→ 169P.).	
	Edge Enhancement	Enhance the edges of the image. For details, see section A.3.4 Enhancing the edges (→ 169P.).	
	Auto Alignment	Execute Auto Alignment. For details, see section A.2.2.2 Auto Alignment (→ 165P.).	
	Undo	Reverses the previous operation. (The maximum undo limit is 10 operations.) Note that undo cannot reverse the following operations: image deletion, marking, reversing the order, object insertion, X-ray magnification correction, and changing the display mode.	

A.3.1 Rotating the image (Free rotation)

- 1** Select Free rotation.
Click the Free Rotation button.
Circles are displayed in the four corners of the image and the center of the image.
When the center of the rotation is not determined, the pointer appears as . Once the center of the rotation is determined, the pointer appears as .
- 2** Determine the center of the rotation.
If the pointer appears as , click on the image to determine the center of the rotation.
The center of the rotation is indicated by , and the pointer appears as .
To move the center of the rotation, click the Free Rotation button to cancel Free Rotation.
- 3** Determine the starting point.
Click a point on the image when the pointer appears as .
The starting point for rotation is determined, and then the auxiliary line is displayed.
- 4** Rotate the image.
When the pointer is moved, the position of the image after rotation is indicated by a dotted line.
The image is rotated by clicking.
- 5** Exit free rotation mode.
Click the Free Rotation button.
The rotation mode can also be exited by clicking the center of the rotation  when the pointer appears as .

A.3.2 Cropping the image

Note: A free rotated image cannot be cropped in Alignment mode.
Also, ranges smaller than 64x64 pixels cannot be cropped.

- 1** Select the Crop Image.
Click the Crop Image button.
The pointer changes to  on the image.
- 2** Determine the starting point.
Click the starting point on the image.
- 3** Determine the crop range.
Moving the pointer displays a dot line. Click to crop the image.

A.3.3 Changing the density

- 1 Select the WW/WL.
Click the WW/WL button.
The pointer changes to  on the image.
- 2 Change the density.
Dragging the pointer from side to side or up and down will change the density.
The operation method is the same as 6.4 Change the Window Width/Window Level (WW/WL) (→ 82P.). In this case, however, the WW/WL window does not open.

A.3.4 Enhancing the edges

- 1 Select edge enhancement.
Click the edge Enhancement button .
The slider bar is displayed.



- 2 Adjust the edge enhancement.
The edge enhancement changes when the slider is slid toward the left and right.
When the edge enhancement is adjusted, the value indicating the extent of the adjustment is displayed on the edge Enhancement button .

A.4 Changing Image Display Properties (Display Adjust Tool)

The mark button is only available for Alignment mode.



Button	Button name	Function
	Zoom In	Clicking this changes the pointer to . Clicking an image while the pointer appears as will enlarge the image. However, the pointer will return to an arrow when the size is reached to maximum magnification.
	Zoom Out	Clicking this changes the pointer to . Clicking the image while the pointer appears as will reduce the image in size. However, the pointer will return to an arrow when the size is reached to minimum magnification.
	Zoom fit	This enlarges the image to fit in the display area.
	Mark	Clicking this changes the pointer to . Clicking an image while the pointer appears as will place a mark on the image. Use this mark as a marker when overlapping images.



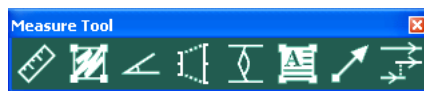
Maximizing a window

Click the Full window button to enlarge the image to fit the entire display area. Clicking the button again to reset the setting.

A.5 Inputting Objects (Measure Tool)

These tools are only available for Fix mode.

For details, see section 8.5 Object Tool (→ 108P.).



Button	Button name	Function
	Measure Distance	Measure the distance.
	Cover Rectangle	Draw a square filled in.
	Measure Angle	Measure an angle.
	Length Calibration	Correct the magnification rate when an image being magnified is taken.
	Measure Cobb-Angle	Measure the bend of the spinal column.
	Text	Used to enter text.
	Arrow	Draw an arrow.
	Height Difference	Measure the difference in height (curvature of the body).



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Deleting objects

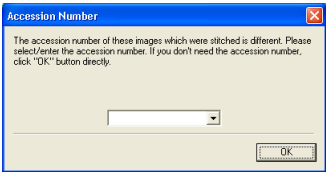
To delete an object, select it, and then select [Delete Selected Items] from the context menu (→ 177P.).

A.6 Outputting Images

When in Fix mode, images can be output to a printer, storage, a local folder, or a local printer.



If the images have different Accession Numbers
If you attempt to output from the Stitch window images with different accession numbers, a window opens, allowing you to select or input an accession number.

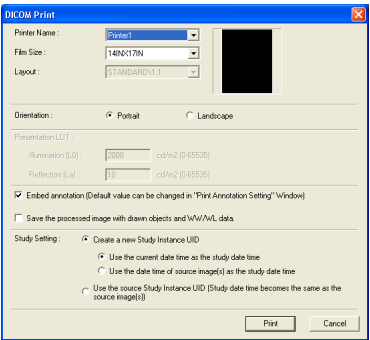


A.6.1 Outputting to a printer

- 1
- Open the DICOM Print window.

Either click the DICOM Print button , or click the commands from the menu bar in the following order.

[File] > [DICOM Print]



DICOM Print window

- 2
- Set parameters.

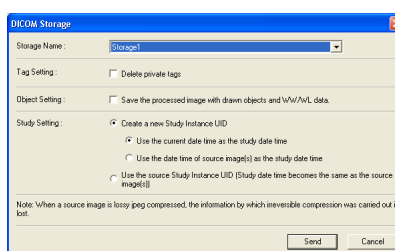
Option name	Function
Printer Name	Click ▼, and then select a printer name from the list.
Film Size	Click ▼, and then select a film size from the list.
Layout	The only available option is STANDARD\1,1.
Orientation	Select either Portrait or Landscape.
Presentasion LUT	If -Q has been entered in the printer parameters, input values for Illumination and Reflection.

Option name	Function
Embed annotation (Default value can be changed in "Print Annotation Setting" Window)	If this option is checked, the image is printed with the annotation (→ 48P.) embedded. Although annotation embedded in the print data, it is not superimposed on the image itself.
Save the processed image with drawn objects and WW/WL data	If this option is checked, the drawn objects and the processed image (grayscale inversion, WW/WL, edge enhancement) are printed as they are displayed now. If this option is not checked, the image is printed as it was loaded.
Study Setting	Select Create a new Study Instance UID or Use the source Study Instance UID. If you selected Create a new Study Instance UID, choose Use the current date time as the study date time or Use the date time of source image(s) as the study date time.

- 3** Print the image file.
Click [Print].

A.6.2 Output to storage

- 1** Open the DICOM Storage window.
Either click the DICOM Storage button (📁) in the toolbar, or click the commands from the menu bar in the following order.
[File] > [DICOM Storage...]



DICOM Storage window

- 2** Set parameters.

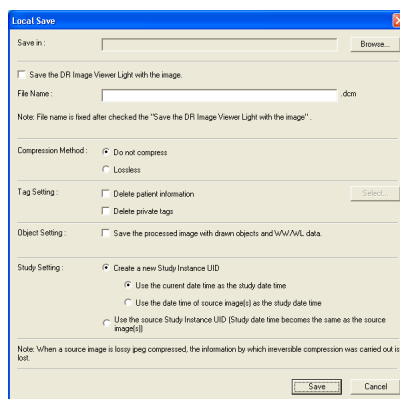
Option name	Function
Storage Name	Click ▼, and then select a storage name from the list.
Tag Setting	When the Delete private tags is checked, studies are transferred with the private tags deleted.

Option name	Function
Object Setting	If the option Save the processed image with drawn objects and WW/WL data is checked, any drawn objects and image manipulations (grayscale inversion, WW/WL, edge enhancement) are saved in their present state. If left unchecked, the image is output in the form in which it was originally loaded.
Study Setting	Select Create a new Study Instance UID or Use the source Study Instance UID. If you selected Create a new Study Instance UID, choose Use the current date time as the study date time or Use the date time of source image(s) as the study date time.

- 3** Output the image file.
Click [Send].

A.6.3 Outputting images to a local folder

- 1** Open the Local Save window.
Either click the Local Save button , or click the commands from the menu bar in the following order.
[File] > [Local Save...]



Local Save window

- 2** Set parameters.

Option name	Function
Save in	Click [Browse...] to open the Browse for Folder window, and then select the folder where you want to save images.
Save the DR Image Viewer Light with the image	If this option is checked, the DR Image Viewer Light executable file is stored in the storage destination.
Compression Method	Select Do not compress or Lossless.

Option name		Function
Tag Setting	Delete patient information	If this option is checked, images are saved with the patient data deleted. Click [Select...] to open the Delete Patient Information window and select patient data to delete. For the Delete Patient Data window, refer to 3.7 Saving Images (→ 33P.).
	Delete private tags	When this option is checked, images are saved with the Private tag value deleted.
Object Setting	Save the processed image with drawn objects and WW/WL data	If this option is checked, any drawn objects and image manipulations (grayscale inversion, WW/WL, edge enhancement) are saved in their present state. If left unchecked, the image is saved in the form in which it was originally loaded.
Study Setting		Select Create a new Study Instance UID or Use the source Study Instance UID. If you selected Create a new Study Instance UID, choose Use the current date time as the study date time or Use the date time of source image(s) as the study date time.

- 3 Output the image file.
Click [Save].

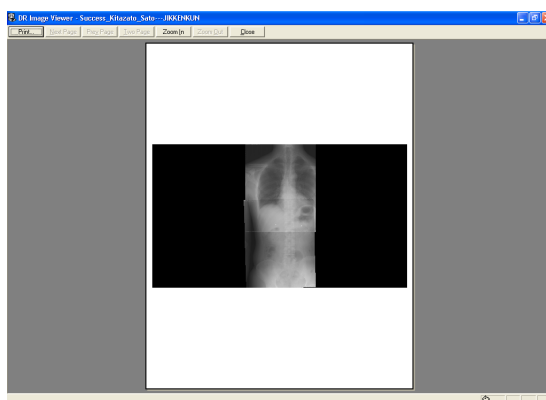
A.6.4 Windows Print

You can print an image to a local printer.
Alternately, you can preview the image before printing.

A.6.4.1 Opening the Preview window

To preview an image before printing it:

- 1 Open the Preview window.
Click the commands from the menu bar in the following order.
[File] > [Windows Print Preview...]



Preview window

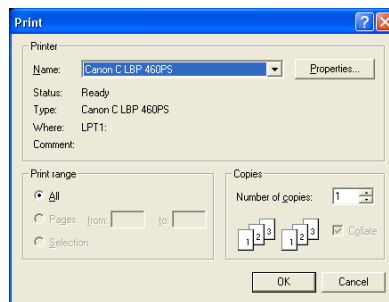
Continued on the following page >>

- 2 Zoom in or zoom out the image.
Clicking [Zoom in] or [Zoom out] allows you to increase or reduce the image size.
- 3 Close the Preview window.
Click [Close].
To print the previewed image, click the [Print] button.

A.6.4.2 Windows Print

You can print an image to a local printer.

- 1 Open the Print window.
Click the commands from the menu bar in the following order.
[File] > [Windows Print ...]



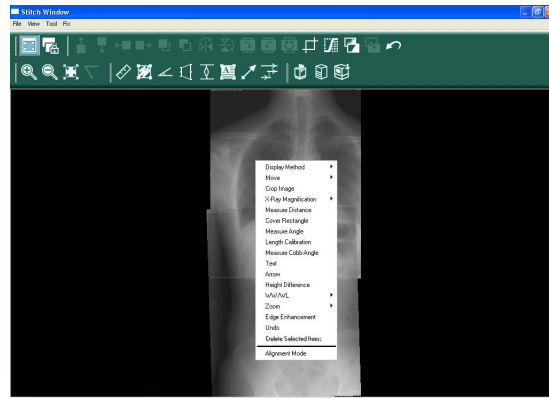
Print window

- 2 Set print parameters.
- 3 Print the image.
Click [OK].

A.7 Context Menu

Right-click an image and a menu appears.

This menu is called a context menu. The context menu differs in Alignment mode and Fix mode.



Context Menu

A.7.1 Menus in Alignment mode

Menu	Reference chapter and page
Display method	A.2.2.1 Before aligning the image positions (→ 164P.)
Change Order	A.3 Adjusting Images (Image Adjust Tool) (→ 167P.) Note that Top and Bottom are available under Change Order.
Move	
Image Flip	
Image Rotation	
Crop Image	
X-ray Magnification	5.8 Context Menu (→ 78P.)
Length Calibration	A.5 Inputting Objects (Measure Tool) (→ 171P.)
WW/WL	A.3 Adjusting Images (Image Adjust Tool) (→ 167P.)
Zoom	A.4 Changing Image Display Properties (Display Adjust Tool) (→ 170P.)
Mark	
Edge Enhancement	A.3 Adjusting Images (Image Adjust Tool) (→ 167P.)
Undo	
Auto alignment	
Delete Selected Items	Deletes the selected object or image.
Fix Mode	Clicking this item activates Fix mode (→ 164P.).

A.7.2 Menus in Fix mode

Menu	Reference chapter and page
Display method	A.2.2.1 Before aligning the image positions (→ 164P.)
Move	A.3 Adjusting Images (Image Adjust Tool) (→ 167P.)
Crop Image	
X-ray Magnification	5.8 Context Menu (→ 78P.)
Measure Distance	A.5 Inputting Objects (Measure Tool) (→ 171P.)
Cover Rectangle	
Measure Angle	
Length Calibration	
Measure Cobb-Angle	
Text	
Arrow	
Height Difference	
WW/WL	A.3 Adjusting Images (Image Adjust Tool) (→ 167P.)
Zoom	A.4 Changing Image Display Properties (Display Adjust Tool) (→ 170P.)
Edge Enhancement	A.5 Inputting Objects (Measure Tool) (→ 171P.)
Undo	A.3 Adjusting Images (Image Adjust Tool) (→ 167P.)
Delete Selected Items	Delete the selected object or image.
Alignment Mode	Clicking this item activates Alignment mode (→ 164P.).

B. Implant Matching

A license is required to use the Implant Matching function.

For how to purchase the license, contact the distributor or Canon representative where you purchased this software.

Notes on Implant Matching

About templates

To superimpose a template on an image, it is first necessary to read in an existing template using a scanner and save it to a file in bitmap format.

The Template Reader reads files in bitmap format and converts them to DICOM format.

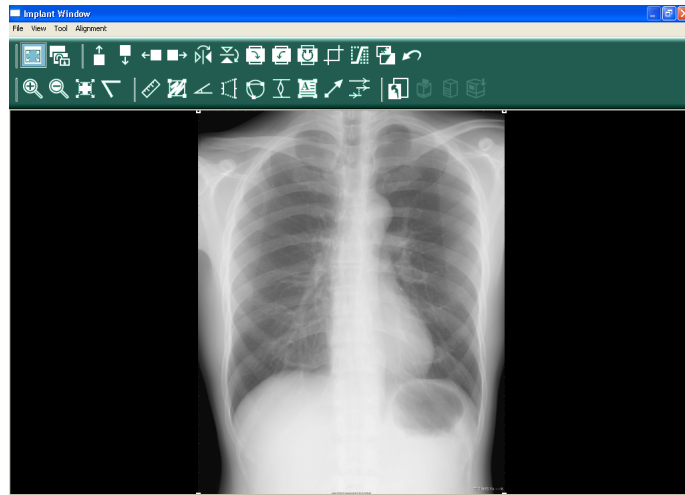
Template size

This function allows you to set the image's default X-ray magnification (→ 119P.) or temporary X-ray magnification (→ 78P.) precisely, in order to determine accurately the size of the template.

B. Implant Matching

B.1 About Implant Matching

The Implant Matching function reads a template file using the Template Reader. Templates are then superimposed on an image in the Implant window, allowing the user to confirm the size and position of implants.



Implant window

B.1.1 About tool operations

The tools in the Implant window work in basically the same manner as those in Image Display mode.

To show or hide the toolbar, click [Tool] on the menu bar, and then click the respective toolbar name.

A check mark is added to the name of the displayed toolbar.

In addition, each tool can be changed to a floating state (**tool window) by dragging or double-clicking the | at the left.

To cancel the floating state, double-click the title bar at the top of the window (section displayed as the **Tool).

B.2 Positioning a Template

B.2.1 Reading a template file

To convert a template file from bitmap to DICOM format.

1

Check that the MSSQL Server Service is started.

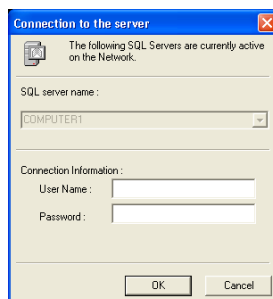
Check the Service Manager icon  displayed on the taskbar to make sure that the service has started.

2

Open the Connection to the server window.

Click the commands from the taskbar in the following order.

[Start] > [All Programs] > [Canon Medical] > [DR Image Viewer] > [Template Reader]



Connection to the server window

3

Input the user name and password.

The entered password is indicated by *.



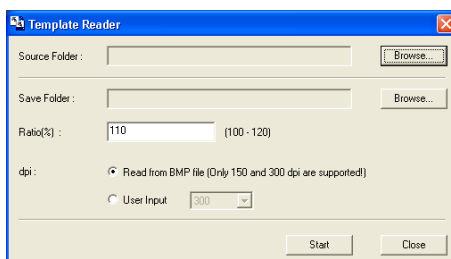
Passwords

Be careful not to forget or tell others your password.

4

Open the Template Reader window.

Click [OK] in the Connection to the server window.



Template Reader window



If a System Information window opens

A System Information window is displayed, based on the System Settings (→ DR Image Server Operation Manual).

Check the information displayed, and then click [OK].

5

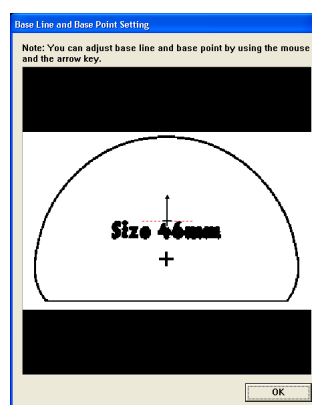
Enter settings for the Template window.

Option name	Function
Source Folder	Select the folder in which templates are stored. Click [Browse...], and then select a folder from the window that appears.
Save Folder	Select the folder in which new templates will be stored. Click [Browse...], and then select a folder from the window that appears.
Ratio (%)	Click inside the frame to display the cursor, and then input the template magnification ratio. This value is stored in (0018,1110) in the converted DICOM format template, and 100 is input to (0018,1111) at the same time.
dpi	Select either Read from BMP file (Only 150 dpi and 300 dpi are supported) or User Input. If you selected User Input, click the ▼ mark and select either 150 or 300 (Unit: dpi). This value is stored in (0018,1164) in the converted DICOM format image.

6

Start reading the image.

Click [Start]. The Set Base Line and Base Point Setting window and the Converting Progress... window open.

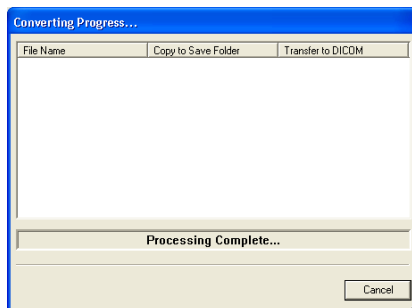


Set Base Line and Base Point Setting window



Cancelling conversion

Click the [Cancel] button in the Converting Progress... window.



Converting Progress... window

7

Set the base lines and base point positions.

Set the base line angles and the base point positions in the Set Base Line and Base Point window.

Change	Operation
Base Line Angle	This operation rotates the template. Move the cursor to the tip of the arrow or the point of intersection between the base line and the arrow. Both sides of the cursor change to arrows. With the cursor in this state, drag the tip of the arrow.
Base Point Position	This operation sets the center position for template rotation. Drag the line portion of the arrow. The entire arrow moves.

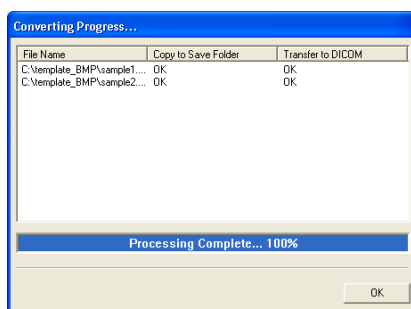
8

Start conversion.

Click [OK]. The processing status is shown in the Converting Progress... window.

Note that if there are multiple files in the read source folder, the Set Base Line and Base Point window opens as many times as there are files. Repeat step 7 as many times as necessary.

Processing Complete... 100% is displayed when processing finishes. Click [OK] to close the window.



B.2.2 Positioning a template

Note: Deleting an image from the Implant window does not delete the original image file in the storage folder.

To open the Implant window and arrange the images to be superimposed:
If you save the template information after positioning a template, it will be displayed in the same position the next time it is read.

B.2.2.1 Before positioning a template

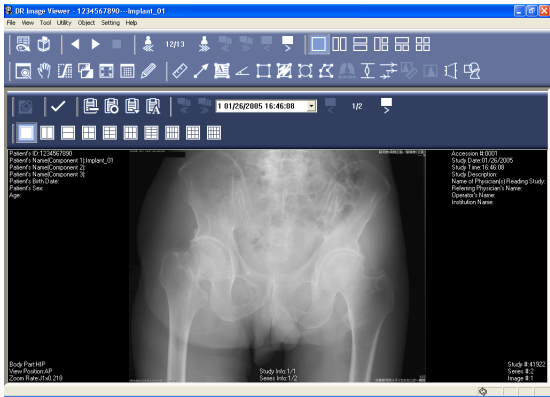
The Implant window has two modes: Alignment mode and Fix mode. Click the Switch Mode Button to switch between them.

Button	Mode	Function
	Alignment mode	This mode is used to adjust the position of templates. Templates superimposed on images are manipulated individually.
	Fix mode	This mode executes the measurement and output of the image. The template position is fixed during subsequent operations.

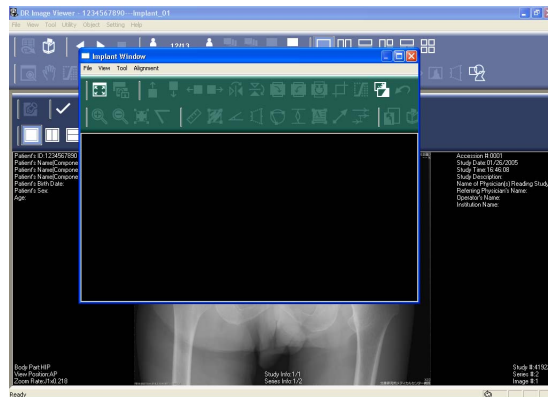
B.2.2.2 Positioning a template

- 1
- Set to Image Display mode.

Refer to 5. Displaying Images (Image Display Mode) (→ 67P.) for information on how to display images.



- 2 Open the Implant window.
Click the commands from the menu bar in the following order.
[File] > [Implant Window...]



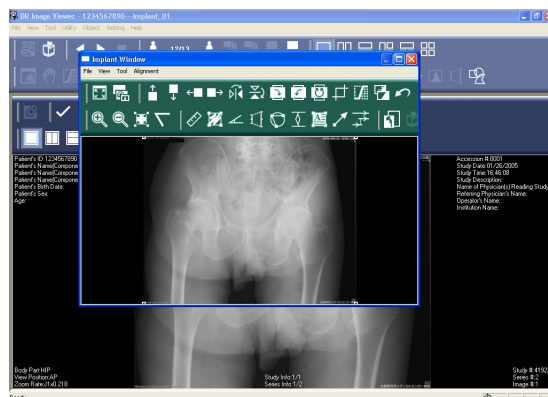
Implant window



Behavior after double-click

If Open the Implant window and insert image is selected under Double-click behavior, as described in 10.9 Setting Double-Click Behavior (→ 145P.), double-clicking an image causes the Implant window to open with the image displayed in it.

- 3 Display an image in the Implant window.
Either double-click an image or drag it into the Implant window.





Navigate Monitor

When the Implant window cannot display the image in the entire image display area, the Navigate Monitor window can open to check the image display position if the Navigate Monitor window is set to Auto-Display.

To set to Auto-Display, click [View] > [Navigation Window] from the menu bar, and check [Auto Show/Hide].



Deleting images and templates

To delete an image or template, click it, and then perform one of the following operations.

- Press the **Delete** key on the keyboard.
- Select [Delete Selected Items] from the context menu (→ 200P.).
- Click the commands from the menu bar in the following order.
[Alignment] > [Delete Selected Items]

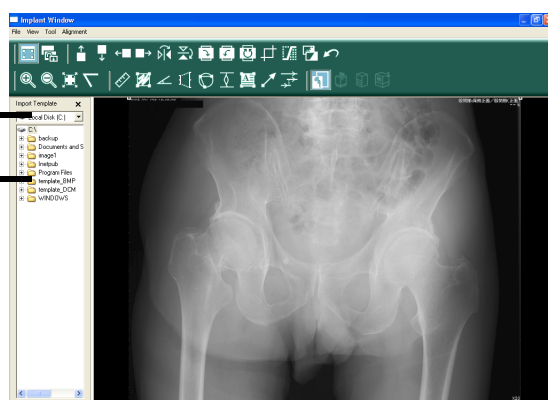
4

Display the Template Import Bar.

Either click the Adding template button () in the toolbar, or click the commands from the menu bar in the following order.

[File] > [Add Template...]

Dropdown list
Template Import
Bar



Adding a folder

To add a folder to the Template Import Bar, click ▼ to display the dropdown list, and then click [Browse...].

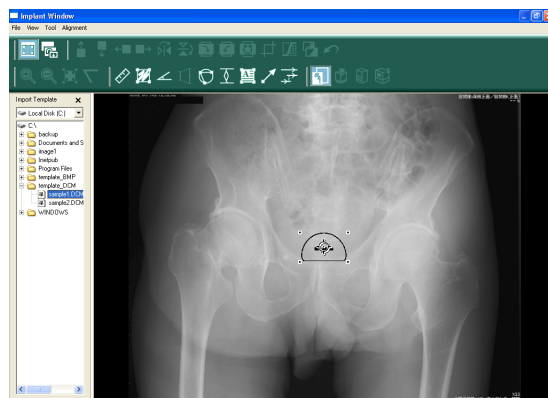
The Browse for folder window opens. Select a folder, and then click [OK] to add it.

5 Insert a template.

On the Template Import Bar, double-click the folder in which the templates to be inserted are stored. A listing of files with the DCM extension appears.

Double-click the file name of a template you have created.

Up to 10 template images can be entered.



Adding templates

When templates are added, they are displayed rotated in the same direction as the first template read.

6 Adjust the image or templates.

Use the Image Adjust Tool (→ 190P.) to make adjustments to images or templates.



Display of base points

The base points set as described in B.2.1 Reading a template file (→ 182P.) are displayed as ○ symbols. Drag a base point to change its position.

7 Save the template parameter.

When you save template parameter to a file, information about both the image and templates are stored.

Click the commands from the menu bar in the following order.

[File] > [Save Drawing Parameters...]

The Save As window opens.

Select a location to save the file, enter a file name, and then click [Save].

If you read in this template parameter file when the Implant window is open, the image and templates are displayed according to the saved template parameter.

8 Determine the image and template positions.

Click the Switch Mode Button to set to Fix mode.

B.2.2.3 Reading template parameter

When template parameter is read in, the image and templates are displayed according to the saved template parameter.

- 1** Open the Open window.
With no image displayed, click the commands from the menu bar in the following order.
[File] > [Load Drawing Parameters...]
- 2** Read in the template parameter.
Select the file location, and then click [Open].
The image and templates are displayed just as they were saved.

B.2.3 Closing the Implant window

To close the Implant window, click the commands from the menu bar in the following order.
[File] > [Close]

B.3 Adjusting Images (Image Adjust Tool)

This tool is used adjusting the alignment of images.



Button	Button name	Function	Shortcut
	Move Up	Move the image one dot upward.	↑
	Move Down	Move the image one dot downward.	↓
	Move Left	Move the image one dot to the left.	←
	Move Right	Move the image one dot to the right.	→
	Left/Right	Flip the right and left sides of the image.	
	Up/Down	Flip the top and bottom of the image.	
	90 Degree (CW)	Rotate the image 90 degrees in the clockwise direction.	
	-90 Degree (CCW)	Rotate the image 90 degrees in the counter-clockwise direction.	
	Free Rotation	Rotate the image in any selected direction. For details, see section B.3.1 Rotating the image (Free rotation) (→ 191P.).	
	Crop Image	Crop the image. For details, see section B.3.2 Cropping the image (→ 191P.).	
	WW/WL	Change the density. For details, see section B.3.3 Changing the density (→ 192P.).	
	Edge Enhancement	Enhance the edges of the image.	
	Undo	Reverses the previous operation. (The maximum undo limit is 10 operations.) Note that undo cannot reverse the following operations: image deletion, marking, reversing the order, object insertion, X-ray magnification correction, and changing the display mode.	

B.3.1 Rotating the image (Free rotation)

- 1 Select the image or template.
- 2 Select Free rotation.
Click the Free Rotation button.
Circles are displayed in the four corners of the image and the center of the rotation.
When the center of the rotation is not determined, the pointer appears as . Once the center of the rotation is determined, the pointer appears as .
- 3 Determine the center of the rotation (only for the captured image).
If the pointer appears as , click on the image to determine the center of the rotation.
The center of the rotation is indicated by , and the pointer appears as .
To move the center of the rotation, click the Free Rotation button to cancel Free Rotation.
- 4 Determine the starting point.
Click a point on the image when the pointer appears as .
The starting point for rotation is determined, and then the auxiliary line is displayed.
- 5 Rotate the image or template.
When the pointer is moved, the position of the image after rotation is indicated by a dotted line, or the position of the template is indicated by the status of the image after rotation.
The image or template is rotated by clicking.
- 6 Exit free rotation mode.
Click the Free Rotation button.
The rotation mode can also be exited by clicking the center of the rotation  when the pointer appears as .

B.3.2 Cropping the image

Note: Free rotated image cannot be cropped.

Also, ranges smaller than 64x64 pixels cannot be cropped.

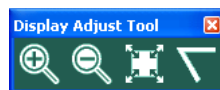
- 1 Select the Crop Image.
Click the Crop Image button.
The pointer changes to  on the image.
- 2 Determine the starting point.
Click the starting point on the image.
- 3 Determine the crop range.
Moving the pointer displays a dotted line. Click to crop the image.

B.3.3 Changing the density

- 1** Select the WW/WL.
Click the WW/WL button.
The pointer changes to  on the image.
- 2** Change the density.
Dragging the pointer from side to side or up and down will change the density.
The operation method is the same as 6.4 **Change the Window Width/Window Level (WW/WL)** (→ 82P.). In this case, however, the WW/WL window does not open.

B.4 Changing Image Display Properties (Display Adjust Tool)

The mark button is only available for Alignment mode.



Button	Button name	Function
	Zoom In	Clicking this changes the pointer to  . Clicking an image while the pointer appears as  enlarges it. However, the pointer will return to an arrow when the size is reached to maximum magnification.
	Zoom Out	Clicking this changes the pointer to  . Clicking the image while the pointer appears as  will reduce the image in size. However, the pointer will return to an arrow when the size is reached to minimum magnification.
	Zoom fit	This enlarges the image to fit in the display area.
	Mark	Clicking this changes the pointer to  . Clicking an image while the pointer appears as  places a  mark on the image. Use this mark as a marker when overlapping images.



MEMO

Maximizing a window

Click the Full window button  to enlarge the image to fit the entire display area. Clicking the button again to reset the setting.

B.5 Inputting Objects (Measure Tool)

These tools are only available for Alignment mode.

For details on operations other than Measure Diameter, see 8.5 Object Tool (→ 108P.).



Button	Button name	Function
	Measure Distance	Measure the distance.
	Cover Rectangle	Draw a square filled in.
	Measure Angle	Measure an angle.
	Length Calibration	Correct the magnification rate when an image being magnified is taken.
	Measure Diameter	Measure the diameter of a circle.
	Measure Cobb-Angle	Measure the bend of the spinal column.
	Text	Enter text.
	Arrow	Draw an arrow.
	Height Difference	Measure the difference in height (curvature of the body).



Deleting objects

To delete an object, select it, and then select [Delete Selected Items] from the context menu (→ 200P.).

B.5.1 Measure Diameter

- 1 Select Measure Diameter.
Click the Measure Diameter button. The pointer changes to + on the image.
- 2 Draw a circle.
Click three points on the image. A circle is drawn, and the diameter is determined.
- 3 Change the shape or move if necessary.
Click the drawing. To change the shape, drag the section. To move, drag any other section.

B.6 Outputting Images

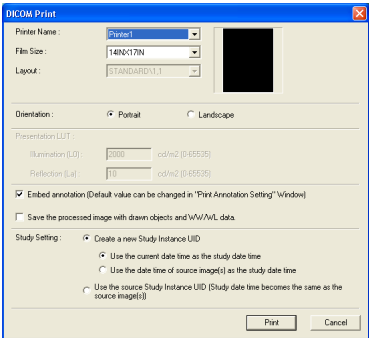
When in Fix mode, images can be output to a printer, storage, a local folder, or a local printer.

B.6.1 Outputting to a printer

1 Open the DICOM Print window.

Either click the DICOM Print button , or click the commands from the menu bar in the following order.

[File] > [DICOM Print...]



DICOM Print window

2 Set parameters.

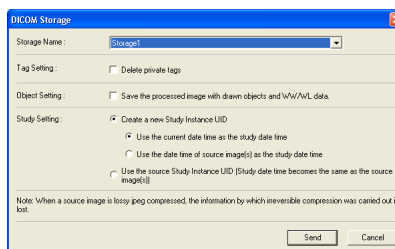
Option name	Function
Printer Name	Click  , and then select a printer name from the list.
Film Size	Click  , and then select a film size from the list.
Layout	The only available option is STANDARD\1,1.
Orientation	Select either Portrait or Landscape.
Presentasion LUT	If -Q has been entered in the printer parameters, input values for Illumination and Reflection.
Embed annotation (Default value can be changed in "Print Annotation Setting" window)	If this option is checked, the image is printed with the annotation (→ 48P.) embedded. Although annotation embedded in the print data, it is not superimposed on the image itself.
Save the processed image with drawn objects and WW/WL data	If this option is checked, the drawn objects and the processed image (grayscale inversion, WW/WL, edge enhancement) are printed as they are displayed now. If this option is not checked, the image is printed as it was loaded.

Option name	Function
Study Setting	Select Create a new Study Instance UID or Use the source Study Instance UID. If you selected Create a new Study Instance UID, choose Use the current date time as the study date time or Use the date time of source image(s) as the study date time.

- 3** Print the image.
Click [Print].

B.6.2 Outputting images to a storage

- 1** Open the DICOM Storage window.
Either click the DICOM Storage button () in the toolbar, or click the commands from the menu bar in the following order.
[File] > [DICOM Storage...]



DICOM Storage window

- 2** Set parameters.

Option name	Function
Storage Name	Click ▼, and then select a storage name from the list.
Tag Setting	If Delete private tags is checked, private tag values are deleted when the image is output.
Object Setting	If Save the processed image with drawn objects and WW/WL data is checked, any drawn objects and image manipulations (grayscale inversion, WW/WL, edge enhancement) are saved in their present state. If left unchecked, the image is output in the form in which it was originally loaded.
Study Setting	Select Create a new Study Instance UID or Use the source Study Instance UID. If you selected Create a new Study Instance UID, choose Use the current date time as the study date time or Use the date time of source image(s) as the study date time.

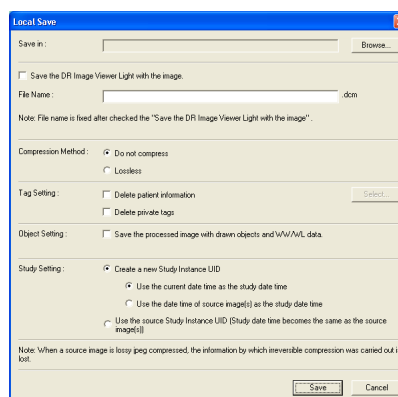
- 3** Output the image file.
Click [Send].

B.6.3 Outputting images to a local folder

1 Open the Local Save window.

Either click the Local Save button , or click the commands from the menu bar in the following order.

[File] > [Local Save...]



Local Save window

2 Set parameters.

Option name		Function
Save in		Click [Browse...] to open the Browse for Folder window, and then select the folder where you want to save images.
Save the DR Image Viewer Light with the image		If this option is checked, the DR Image Viewer Light executable file is stored in the storage destination.
Compression Method		Select Do not compress or Lossless.
Tag Setting	Delete patient information	If this option is checked, images are saved with the patient data deleted. Click [Select...] to open the Delete Patient Information window and select patient data to delete. For the Delete Patient Data window, refer to 3.7 Saving Images (→ 33P.).
	Delete private tags	When this option is checked, images are saved with the Private tag value deleted.
Object Setting	Save the processed image with drawn objects and WW/WL data	If this option is checked, any drawn objects and image manipulations (grayscale inversion, WW/WL, edge enhancement) are saved in their present state. If left unchecked, the image is saved in the form in which it was originally loaded.

Continued on the following page >>

Option name	Function
Study Setting	Select Create a new Study Instance UID or Use the source Study Instance UID. If you selected Create a new Study Instance UID, choose Use the current date time as the study date time or Use the date time of source image(s) as the study date time.

- 3 Output the image file.
Click [Save].

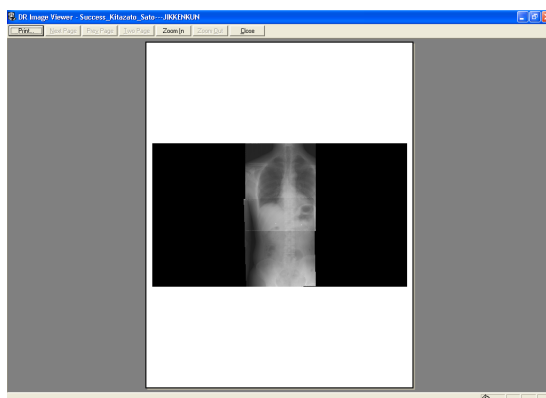
B.6.4 Windows Print

You can print an image to a local printer.
Alternately, you can preview the image before printing.

B.6.4.1 Opening the Preview window

To preview an image before printing it:

- 1 Open the Preview window.
Click the commands from the menu bar in the following order.
[File] > [Windows Print Preview...]



Preview window

- 2 Zoom in or zoom out the image.
Clicking [Zoom in] or [Zoom out] allows you to enlarge or reduce the image size.
- 3 Close the Preview window.
Click [Close].
To print the previewed image, click the [Print] button.

B.6.4.2 Outputting to a local printer

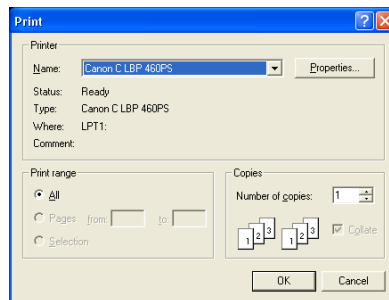
You can print an image to a local printer.

1

Open the Print window.

Click the commands from the menu bar in the following order.

[File] > [Windows Print ...]



Print window

2

Set the print properties for printing an image.

3

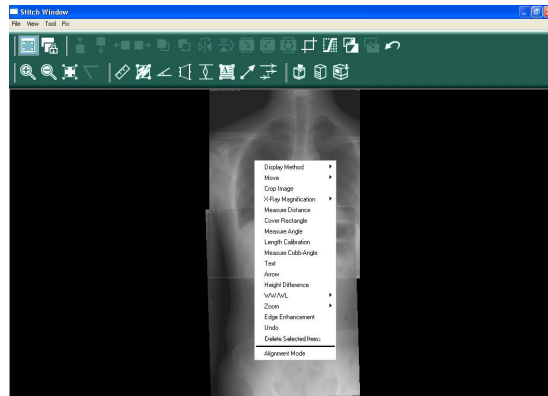
Print the image.

Click [OK].

B.7 Context Menu

Right-click an image and a menu appears.

This menu is called a context menu. The context menu differs in Alignment mode and Fix mode.



Context Menu

B.7.1 Menus in Alignment mode

Menu	Reference chapter and page
Move	B.3 Adjusting Images (Image Adjust Tool) (→ 190P.)
Image Flip	
Image Rotation	
Crop Image	
WW/WL	
Zoom	B.4 Changing Image Display Properties (Display Adjust Tool) (→ 193P.)
Mark	
X-ray Magnification	5.8 Context Menu (→ 78P.)
Measure Distance	B.5 Inputting Objects (Measure Tool) (→ 194P.)
Cover Rectangle	
Measure Angle	
Length Calibration	
Measure Diameter	
Measure Cobb-Angle	
Text	
Arrow	
Height Difference	
Edge Enhancement	B.3 Adjusting Images (Image Adjust Tool) (→ 190P.)
Undo	

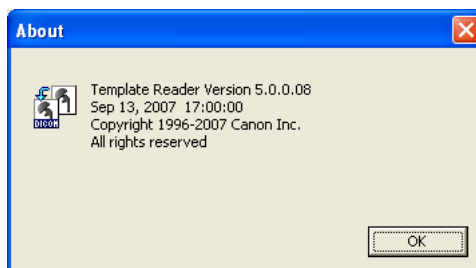
Menu	Reference chapter and page
Delete Selected Items	Deletes the selected object or image.
Fix Mode	Clicking this item activates Fix mode (→ 185P.).
Fix Template	Allows you to fix (group) individual templates that have been superimposed on an image.
Unfix Template	Unfixes templates.

B.7.2 Menus in Fix mode

Menu	Reference chapter and page
Crop Image	B.3 Adjusting Images (Image Adjust Tool) (→ 190P.)
WW/WL	B.3 Adjusting Images (Image Adjust Tool) (→ 190P.)
Zoom	B.4 Changing Image Display Properties (Display Adjust Tool) (→ 193P.)
Edge Enhancement	B.5 Inputting Objects (Measure Tool) (→ 194P.)
Undo	B.3 Adjusting Images (Image Adjust Tool) (→ 190P.)
Alignment Mode	Clicking this item activates Alignment mode (→ 185P.).

B.8 Template Reader Version Information

Click the Template Reader icon, and then click [About TemplateReader...] from the menu.
The Version Information window opens.



Version Information window

To close the window, click [OK].

C. DICOM Query/Retrieve

A license is required to use DICOM Query/Retrieve.

For how to purchase the license, contact the distributor or Canon representative where you purchased this software.

Notes on DICOM Query/Retrieve

DICOM Query/Retrieve settings

For details on DICOM Query/Retrieve settings, refer to DR Image Server Operation Manual.

C. DICOM Query/Retrieve

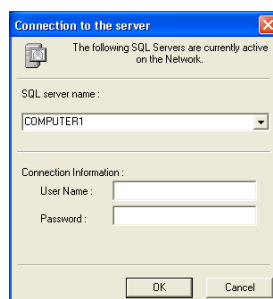
DICOM Query/Retrieve is a function that asks (queries) patient data of another server to get (retrieve) the image that matches given conditions.

For Query/Retrieve settings, refer to the DR Image Server Operation Manual.

C.1 Starting DICOM Protocol Image Receiver

To get an image from another server, use DICOM Protocol Image Receiver of DR Image Server. The DICOM Protocol Image Receiver window can be opened directly by clicking [DICOM Protocol Image Receiver] in DR System Manager.

- 1 Check that the MSSQL Server Service is started.
Check the Service Manager icon  displayed on the taskbar to make sure that the service has started.
- 2 Open the Connection to the server window.
Click the commands from the taskbar in the following order.
[Start] > [All Programs] > [Canon Medical] > [DR Image Server] > [DICOM-Protocol Image Receiver]



Connection to the server window



Connection to the server window at Startup

If you copy the DICOM Protocol Receiver shortcut from its location in the Start menu to the [Startup] folder, the Connection to the Server window will appear each time Windows is started.

In addition, if Permit starting DICOM-Protocol Image Receiver without login is checked under Setting Policy for the DR Image Server, the DICOM-Protocol Image Receiver will be launched automatically.

Continued on the following page >>

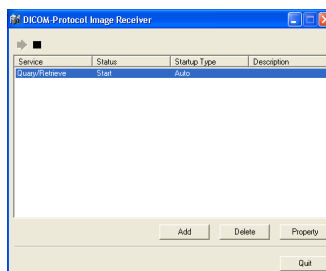
- 3** Input the user name and password.
The entered password is indicated by *.



Passwords

Be careful not to forget or tell others your password.

- 4** Open the DICOM-Protocol Image Receiver window.
Click [OK] in the Connection to the server window.



DICOM-Protocol Image Receiver window



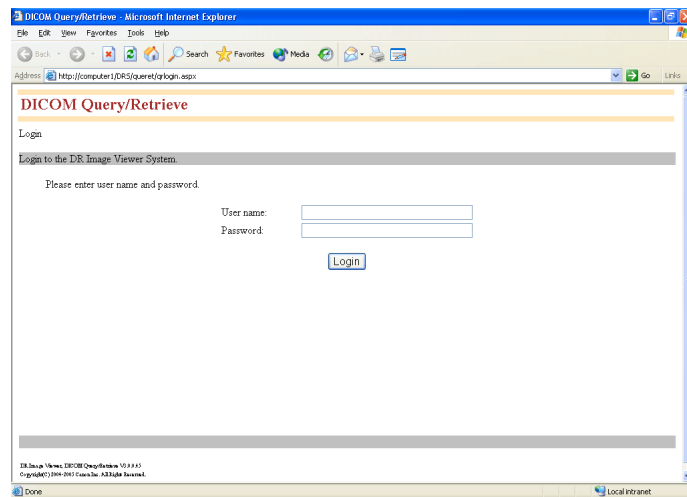
If a System Information window opens

A System Information window is displayed, based on the System Settings (→ DR Image Server Operation Manual).
Check the information displayed, and then click [OK].

- 5** Check that the Receiver has started.
The receiver that retrieves images using the Query/Retrieve function is registered as QueryRetrieve.
Check that this receiver has started.
The properties of this receiver cannot be changed.

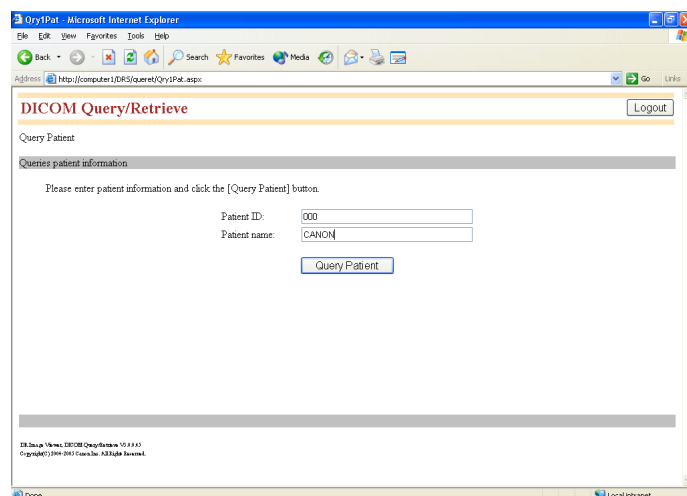
C.2 Getting Images from Another Server

- 1 Open the Login window.
In the Work List Display mode, click the commands from the menu bar in the following order.
[File] > [DICOM Query/Retrieve]



Login window

- 2 Log into the system.
Enter the user name and password and click [Login].
- 3 Query patient information.
Enter the Patient ID and Patient name and click [Query Patient].

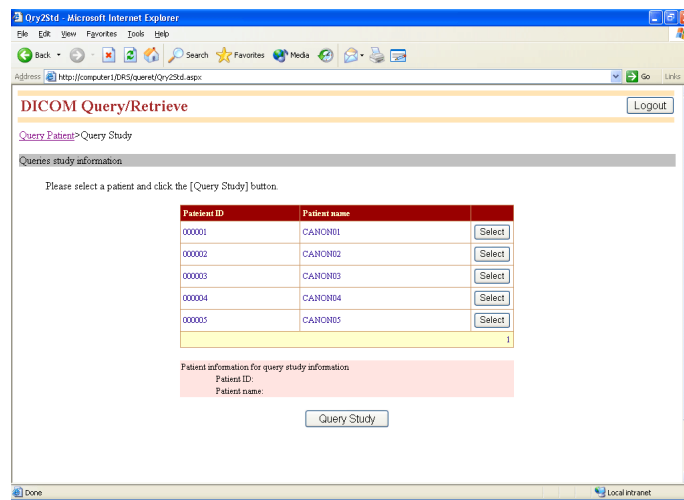


Query Patient information window

Continued on the following page >>

4 Query study information.

Click [Select] of the patient information to be queried, and then click [Query Study].



DICOM Query/Retrieve

Query Patient > Query Study

Queries study information

Please select a patient and click the [Query Study] button.

Patient ID	Patient name	
000001	CANON01	Select
000002	CANON02	Select
000003	CANON03	Select
000004	CANON04	Select
000005	CANON05	Select

1

Patient information for query study information

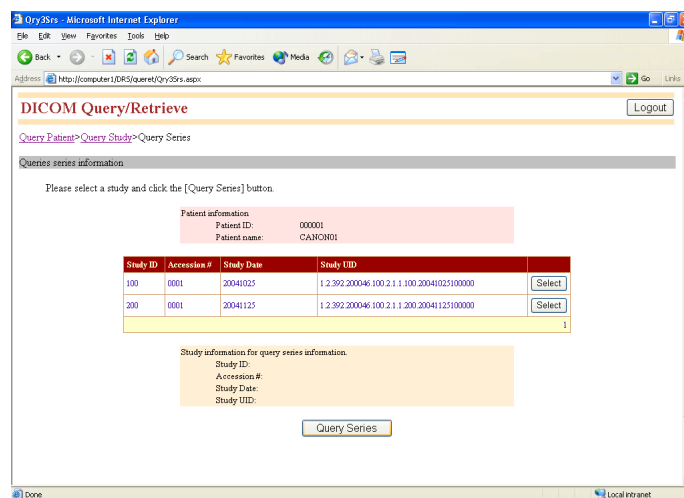
Patient ID:
Patient name:

Query Study

Query Study information window

5 Query series information.

Click [Select] of the study information to be queried, and then click [Query Series].



DICOM Query/Retrieve

Query Patient > Query Study > Query Series

Queries series information

Please select a study and click the [Query Series] button.

Patient information

Patient ID: 000001
Patient name: CANON01

Study ID	Accession #	Study Date	Study UID	
100	0001	20041025	1.2.392.200046.100.2.1.1.100.200410251000000	Select
200	0001	20041125	1.2.392.200046.100.2.1.1.200.200411251000000	Select

1

Study information for query series information.

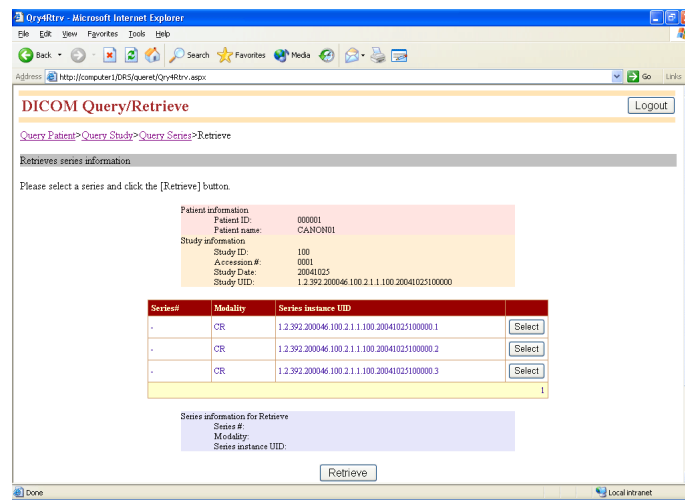
Study ID:
Accession #:
Study Date:
Study UID:

Query Series

Query Series Information window

6 Retrieve images.

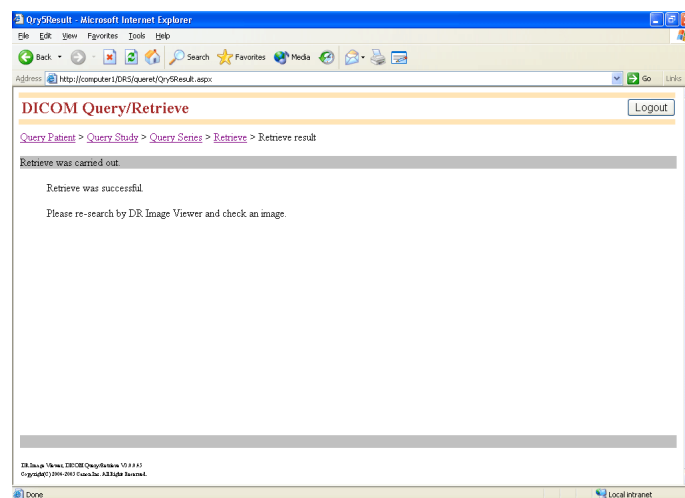
Click [Select] for the series you want to retrieve, and click [Retrieve].



Retrieve window

7 Retrieve result.

When an image has been retrieved successfully, Retrieval was successful is displayed.



Retrieve result window

8 Continue to retrieve another image or exit.

To continue to retrieve another image, click Query Patient. To exit, click [Logout] or close the window.

D. DR Image Viewer Light

Notes on DR Image Viewer Light

Handling

When copies of DR Image Viewer Light are transferred to third parties, be sure to note that the warning message displayed when saving copies of DR Image Viewer Light.

Usage

Carefully note that the information that is displayed at start-up when using DR Image Viewer Light.

Protection of personal information

DR Image Viewer Light displays personal information associated with saved image files.

Consequently, measures should be taken to protect personal information when DR Image Viewer Light and image files are copied to removable media and taken out of the premises.

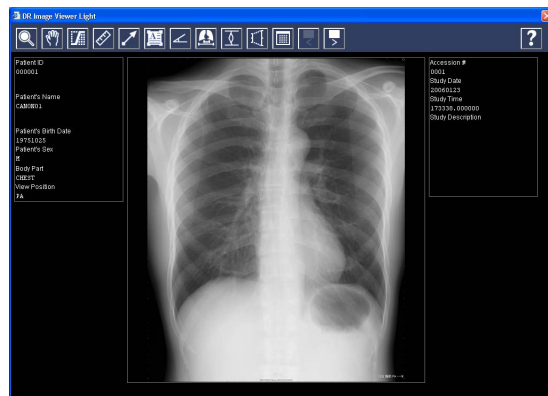
D. DR Image Viewer Light

Note: When copying DR Image Viewer Light to removable media, it is recommended that software with a password-protection function be used to set a password for the removable media.

If the removable media is not password-protected, unauthorized persons will be able to use DR Image Viewer Light to display patient images and view associated personal information.

D.1 About DR Image Viewer Light

If when saving images a copy of DR Image Viewer Light is saved as well, it will be possible to view image files on a computer that does not have DR Image Viewer installed.



DR Image Viewer Light

D.2 Saving a Copy of DR Image Viewer Light

The method for saving a copy of DR Image Viewer Light along with saved image files is described in the chapters listed below.

Status	Reference chapter
Worklist Display mode	3.7 Saving Images (→ 33P.)
Image Display mode	7.3 Saving to a Local Folder (→ 95P.)
Stitch window	A.6.3 Outputting images to a local folder (→ 174P.)
Implant window	B.6.3 Outputting images to a local folder (→ 197P.)

Index

Numerics

- 90 Degree (CCW) 91
- 90 Degree (CW) 91

A

- Alignment mode 164
- All Groups 21
- All member's Reports 44
- Arrow 109
- Auto Alignment 165
- Auto Alignment function 164
- Auto Display Tool 69, 76
- Auto-update setting 65

B

- Backup files 68

C

- Changing the Connection Server 10
- Column window 43
- Context Menu 78, 177, 200
- Copy to Clipboard 102
- Cover Rectangle 111
- Customize Toolbar window 134

D

- Default X-ray Magnification 119
- Delete patient information window 34, 37, 96
- Detail Examination 130
- Detail Examination Tool 69
- Detect CTR 113
- DICOM Attributes Information 77
- DICOM Print Task window 29, 94
- DICOM Print window 27, 93, 172, 195
- DICOM Printer Details Setting window 53
- DICOM Printer Settings 52
- DICOM Printer Setting Tab 52
- DICOM Query/Retrieve 205
- DICOM Storage Setting Tab 56
- DICOM Storage Task window 32
- DICOM Storage window 30, 98, 173, 196
- Display Adjust Tool 170, 193
- Display Annotation window 136
- Display Object 118
- Display Object in Current Image window 104
- Display Object window 104
- DR Event Viewer 4
- DR Event Viewer window 153
- DR Image Server 1

- DR Image Viewer 1
- DR Image Viewer Light 95
- DR Image Viewer System 1
- Draw line setting window 135

E

- Edge Enhancement button 79
- Ellipse 112
- Extension mode 25

F

- Fix mode 164
- Font window 45, 131, 132, 154
- Full window 84

G

- Gamma Correction for P-value image window 142
- Gamma Correction window 140
- General Tool 69
- Grayscale Inversion 88, 91
- Group ID 8, 15
- Group tab 8, 15

H

- Height Difference 115

I

- Image Adjust Tool 167, 190
- Image Display Mode 3, 9, 67, 89
- Image Display window 138
- Image Flip 88
- Image Multi-format Tool 69, 75
- Implant window 181, 186

L

- Left/Right 91
- Length Calibration 118
- Length Calibration window 118
- Local Save window 33, 174, 197
- Log linearization 140

M

- Magnification window 80
- Main Study List 15
- Measure Angle 110
- Measure Cobb-Angle 114
- Measure Distance 109
- Measure Pixel Pitch window 139
- Measure Tool 171, 194
- Monitor Gamma Coefficient 141, 142

My check 44
My Report 44

N

Navigate Monitor 163, 187

O

Object Font 131
Object Save Setting tab 63
Object Tool 69, 108
Options window 52
Others Check 44

P

Pan the Image 81
Patient Tab 8, 15
Patient Tool 69, 71
Patient toolbar 69
Pin Tool 69, 74
Pixel to Pixel Display 85
Polygon 112
Pre-fetch images window 47
Preview window 100, 175, 198
Print Annotation window 48
Print window 101, 176, 199
Print-Layout window 89
Profile window 116

Q

Query Patient information window 207
Query Series Information window 208
Query Study information window 208

R

Record Setting window 51
Rectangle 111
Report Input window 125
Report Output window 40
Report Setting Tab 61
Report Tool 69, 86, 122
Retrieve window 209
Rotation 88

S

Save BMP/JPG Image window 99
Save Object 105
Searching Studies 21
Series List 15
Set Base Line and Base Point Setting window 183
Setting monitor mode 65
Show Report window 39
Statistics window 117

Status bar 77
Stitch window 161, 162
Study List 15
Study Multi-format Tool 69, 73
Study Order window 144
Study Tool 69, 72
Study toolbar 69
System Information window 6
System Setting window 65

T

Template file 182
Template Import Bar 187
Template parameter 188
Template Reader window 182
Text 110
Text Font 132
Tool Size window 46, 133

U

Up/Down 91
Utility Tool 69, 79

V

Visual Gamma Chart window 141, 143

W

Windows Print 101, 175, 198
Worklist Display mode 3, 8
Worklist Toolbar 17
WW/WL window 82

Z

Zoom In 87
Zoom Out 87



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