Zview

DR Console Software

User Manual

(for VET)

Manual Version : 2.1

Revision : 002

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1. Introduction

ZView is the name of the digital radiography.

ZView is the DR console or DR control software that acquires image from the DR detector like flat panel or CCD, processes rapidly for clinical application, and provides DICOM services for the integration with PACS system. This manual explains how to install and operate ZView software.

2. Purpose

ZView is the operation console system software integrated with various detectors or X-ray generator, based on FS-MLW (Faster Specialized Multi Layered Wavelet) technology.

ZView is the product developed for the operator, designed at the clinical hospital through many years of clinical tests, and finished by service engineers. Integrating the X-ray's generator operation panel, the total DR system inside the software makes it possible to control APR, AEC, Ready/Exposure with ease.

ZView is integrated with various X-ray generators, supports APR function, and provides all-in-one DR product which enables to work as existing operation panel with just one console software.

3. System requirements

3-1. Workstation

- **Processor**: Intel Pentium Intel Duo Core/Core 2 Duo or compatible AMD Dual Core Processor or later
- **RAM** : 2GB RAM
- **HDD**: At least 40GB hard disk (if possible, over 7,200 RPM). **For data backup and reliability, we recommend two separate HDDs physically**- 1st HDD: System and Software, 2 HDD: Image Data Storage, not separating the partition logically with just one HDD.
- **Network Card** : 10/100/1000Mbps Ethernet Network Card
- **Video graphic adapter**: at least over 1280 X 900 pixels, color resolution- True Color mode(no shard memory), DVI interface connector
- **Operating System** : Windows XP prof.(at least SP2), Windows 2000 prof.(at least SP4)
- **Need I/O** : 1 Parallel port(synchronize Detector & X-ray Generator & Software), 1 Serial port(in case Control of X-ray generator), 1 USB port(Software Lock-Key)

3-2. Monitor

- Over 19 inch (23 inch recommended)
- Brightness : over 300cd/m^2
- Contrast Ratio : over DC 8000:1
- Response time : over 5 ms
- 1600X1200 or 1920X1280 recommended (at least over 1280 X 900) 4:3 , 16:9. 16: 10 ratio supported.
- High fidelity of grayscale and optimized luminance distribution

If you want to use high-resolution monitor, we recommend medical LCD monitor (B/W or color). There is no problem because the present software was made based on gray color when you want to use black and white monitor.

For image quality control, we recommend the below among medical monitors. It is because it needs to adjust the image at the same brightness for diagnosis after taking X-ray. Most of monitors are made according to each country's medical standard so that there is no problem to use them.

4. Installation & Delete software

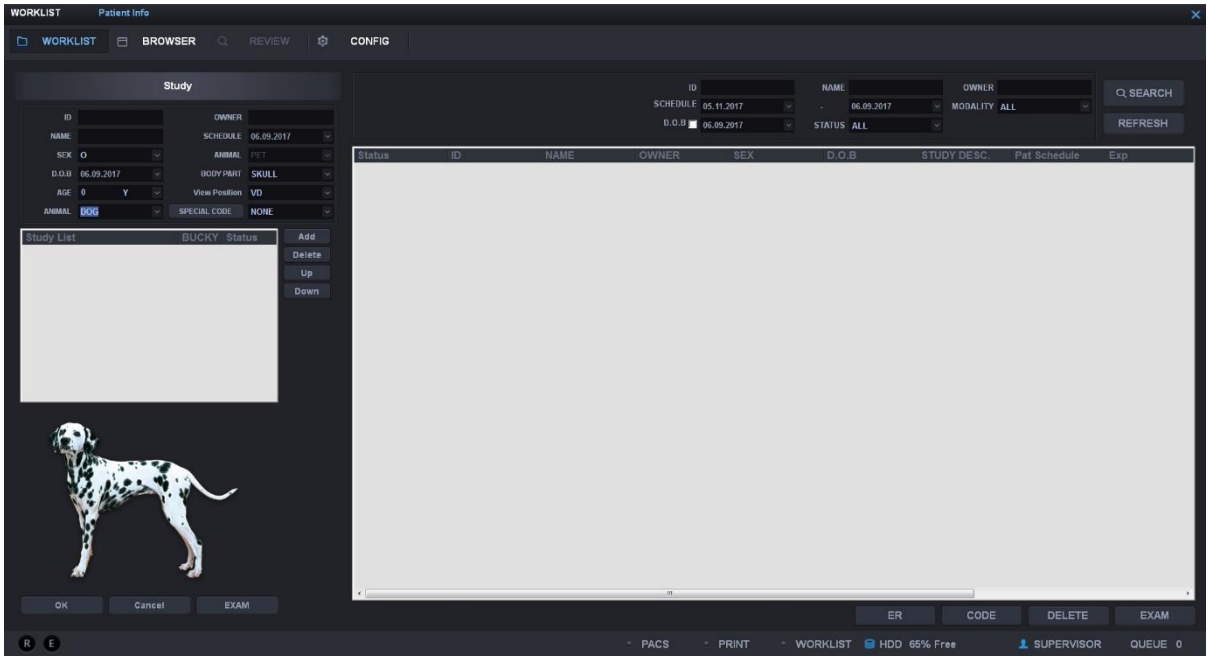
Note

"If you want to install on your new PC or reinstall after removing the old version, you should call and contact service engineer."

5. Software configuration

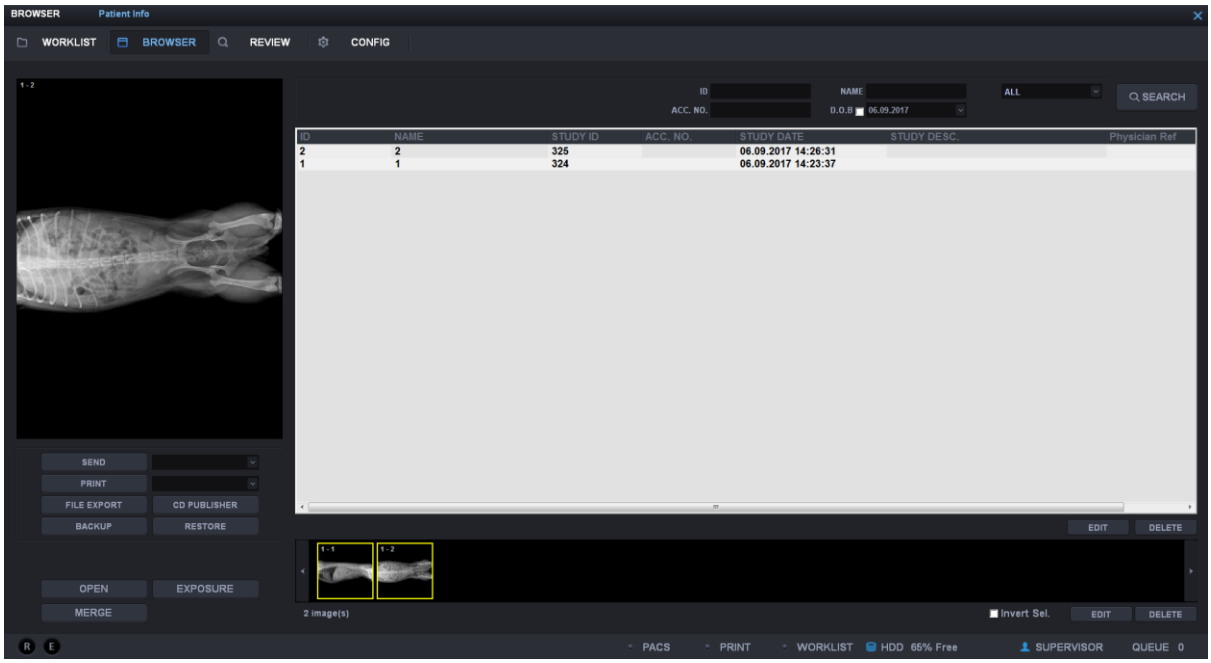
5-1. Worklist

Through DICOM Worklist, you can input the patient information, integrated with hospital information system (HIS) or input the patient information manually.



5-2. Browser

It shows the list of stored images after acquisition. You can open the images to edit, to send to the PACS server, and to print out.

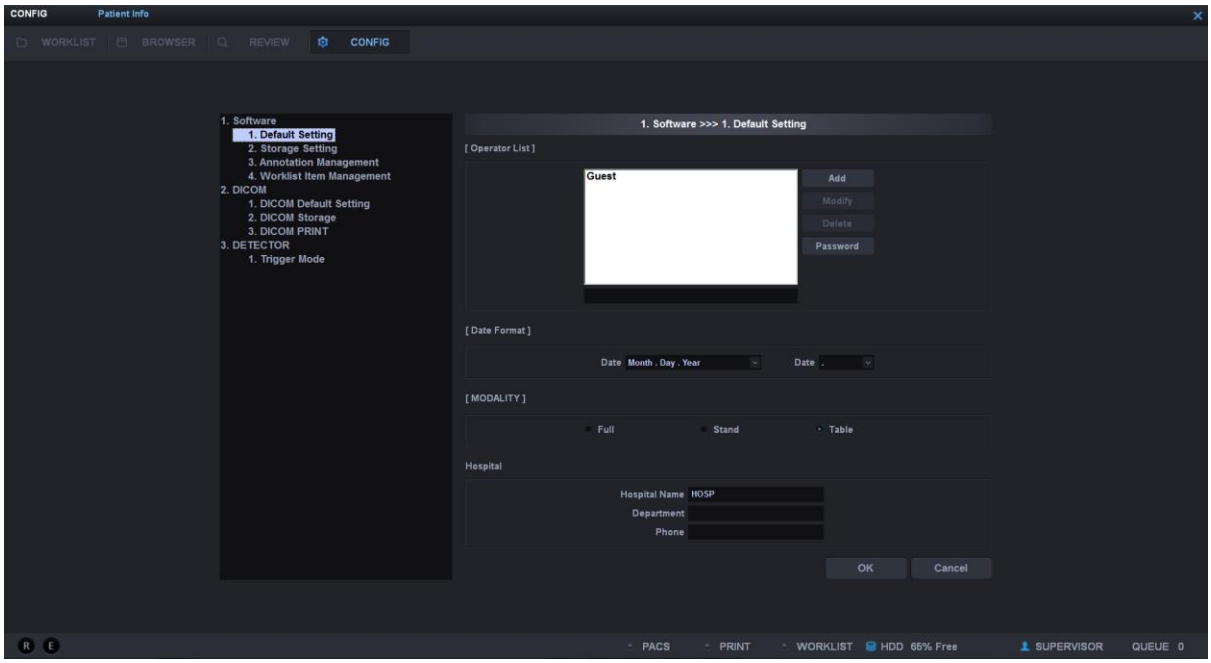


5-3. Review

You can take images according to the information selected from the Worklist and edit after retrieving images stored in the browser. There are the generator tab for controlling the generator and the process tab for editing images.

5-4. Config

You can do configuration for functions and information for ZView



6. Operation ZView

6-1.Login

The program starts.

From the desktop, double-click "ZView" icon to execute the program. Put the operator name (or ID) and password from the login screen and click "OK" to start the program.

Check the connection status with detector and generator after login and Put the color value connected with each part of the screen.

Note

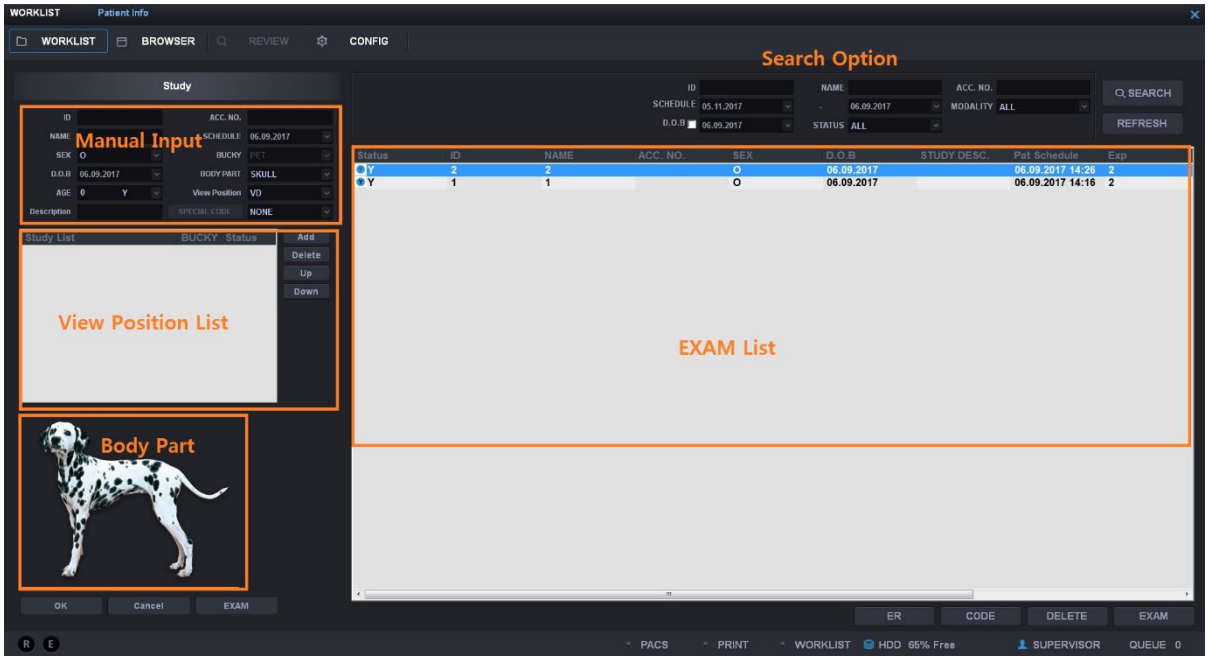
-There is the difference according to the user level like company, or company name or supervisor.

-You can ordinary user account or ordinary manager account at the hospital. The "supervisor" account is for A/S engineers.

-The screen may look still temporarily due to the connection to the equipments after login.

6-2.Worklist

You can retrieve the study from the Worklist and display on the screen. You can also input manually. You can move to the study mode by double-clicking the patient information of the list or clicking the study button.



6-2-1. Main Menu

① EXAM: Move the studies selected from the list to the EXAM mode.

② DELETE: Delete the selected study lists.

③ ER: This is for emergency study.

④ CODE : Setting RIS code and View position.

Note:

In the case of "ER", you need to set ER001 special code in the code manager in advance to move to the study mode after creating ID, password and so on automatically. Here you input the study body part, study conditions and so on for the study settings.

6-2-2. Search option

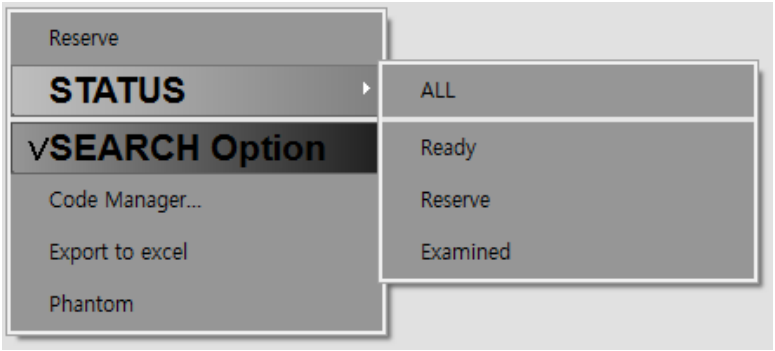
You can set the item to display in the list. With the patient information (ID, Name, Access No.), you can display the specific patient or the patient satisfying special conditions with the items like Schedule, Modality and State.

6-2-3. Refresh

You can renew the list when DICOM worklist supported.

6-2-4. List

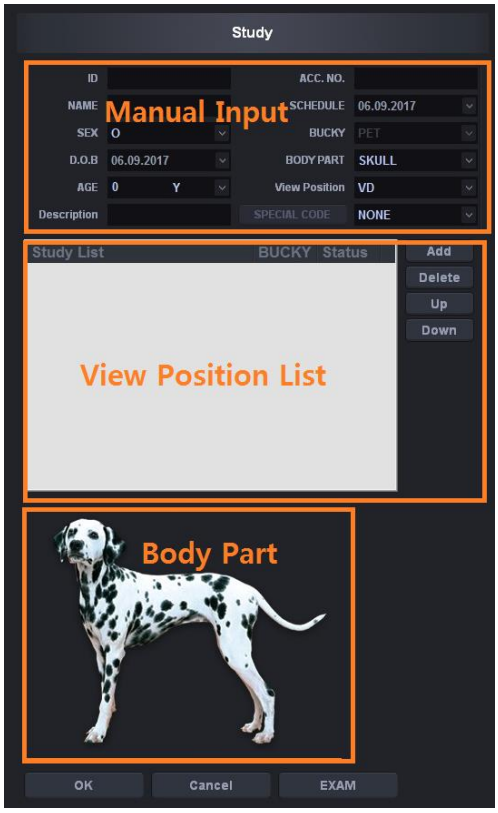
It displays the list corresponding to the conditions set in the Option. Double-click the right button of the mouse from the worklist to show pop-up menu.



① Reserve (X) : Change the selected list to Reserve mode due special reasons.
② STATUS: Search study lists satisfying selected study conditions.
   A. All : Display all study lists.
   B. Ready : Display the list not examined yet.
   C. Reserve : Search the list of Reserve mode.
   D. Examined : Display the examined list.
③ Search Option: Show or hide search options of the worklist.
④ Code Manager: For the RIS code of selected studies, it displays the code manager on the screen to select the view position. Please refer to "8. TOOLS 의 code manager" for its usage.
⑤ Export to excel : Release the searched list to excel.
⑥ Phantom: Change examination for phantom mode.

6-2-5. Manual Input

You can create new patient information by putting them.

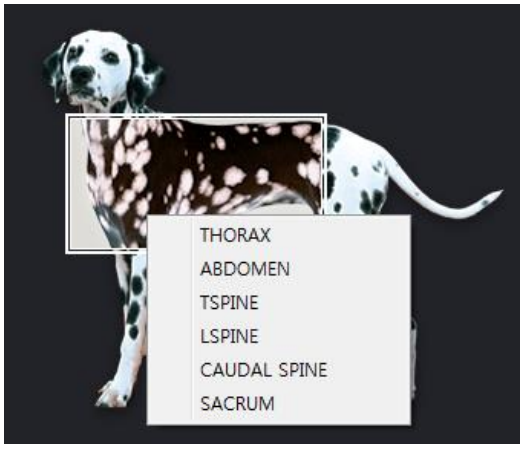


① Manual Input

A. You input ID, Name, ACC. No., Animal's OWNER(Responsible Person Name) and so on. You need to input at least ID and name.

B. ANIMAL: You select the type of the animal. If you select "Other" item in animal list, you can choose in the 3 type animal (Mammals/Birds/ Reptiles).

C. You can select the type of the anatomy as below.



D. If the favorite study lists are inputted in advance in the special code, you can automatically check study lists in the study list by selecting the code next to

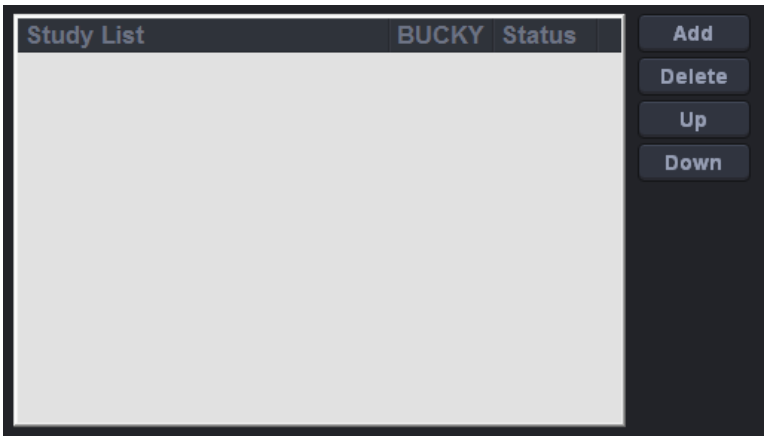
the special code. If you want to add the study list here, click the special code to check the study list and then push the ADD button to add.

A. If you want to change or create the special code on the worklist screen, right-click from the Study list to execute the Code manager.
B. You can create Date of Birth and the age in the DICOM file by putting them.
C. If you do not change 1900.01.01 as default, there is no value at the patient's birth date field (0010.0030) of the DICOM file.
D. If you put the patient age, it inputs the age only in the DICOM file.
E. You can specify the age by year, month, and date unit.

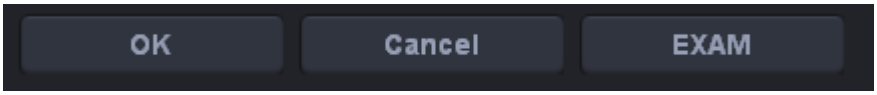
Note

Be careful not to input the Date of Birth and the Pat Age separately. It may cause that the date of birth and age become different in the DICOM file.

⑤ Study List



A. ADD : Add the inputted study information to the study list.
B. DELETE: Delete the wrong list.
C. UP/DOWN : You can order when changing the sequence of the selected study lists.



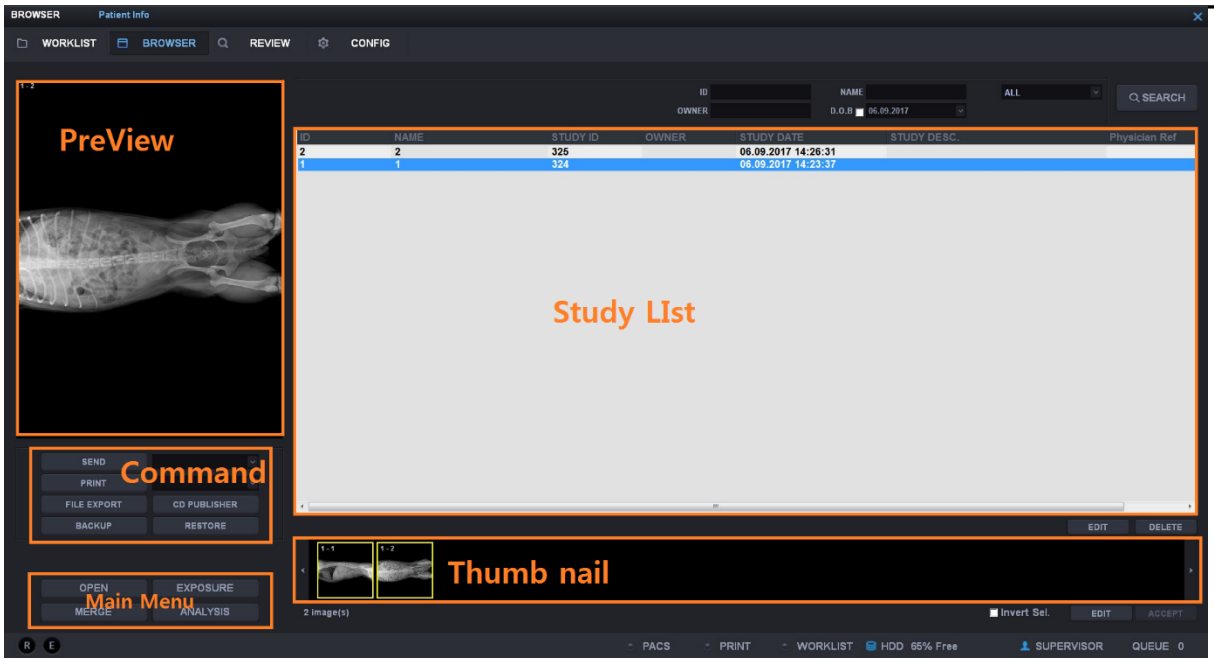
⑥ OK : Add the inputted study information to the Study list.
⑦ CANCEL : Reset the inputted study information.
⑧ STUDY : Change to the Study mode for inspecting as inputted study information.

6-3. Browser

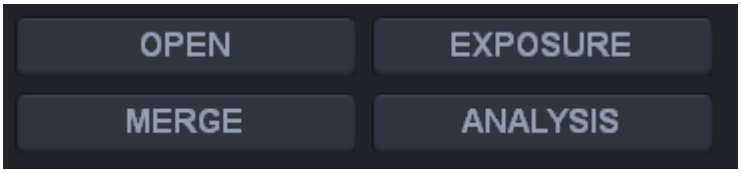
The browser mode works as database viewer in order to review saved image data. In this mode, you can query in various ways, x-ray again, and change the sequence of the image. You can also send to PACS or backup and restore. It is very useful management tool.

Note

If you execute the browser mode, you cannot see the image on the image display list at the early stage. That is because it is not selected from the list of Patient/study/series. Therefore, you need to select to display from the list of Patient/study/series.



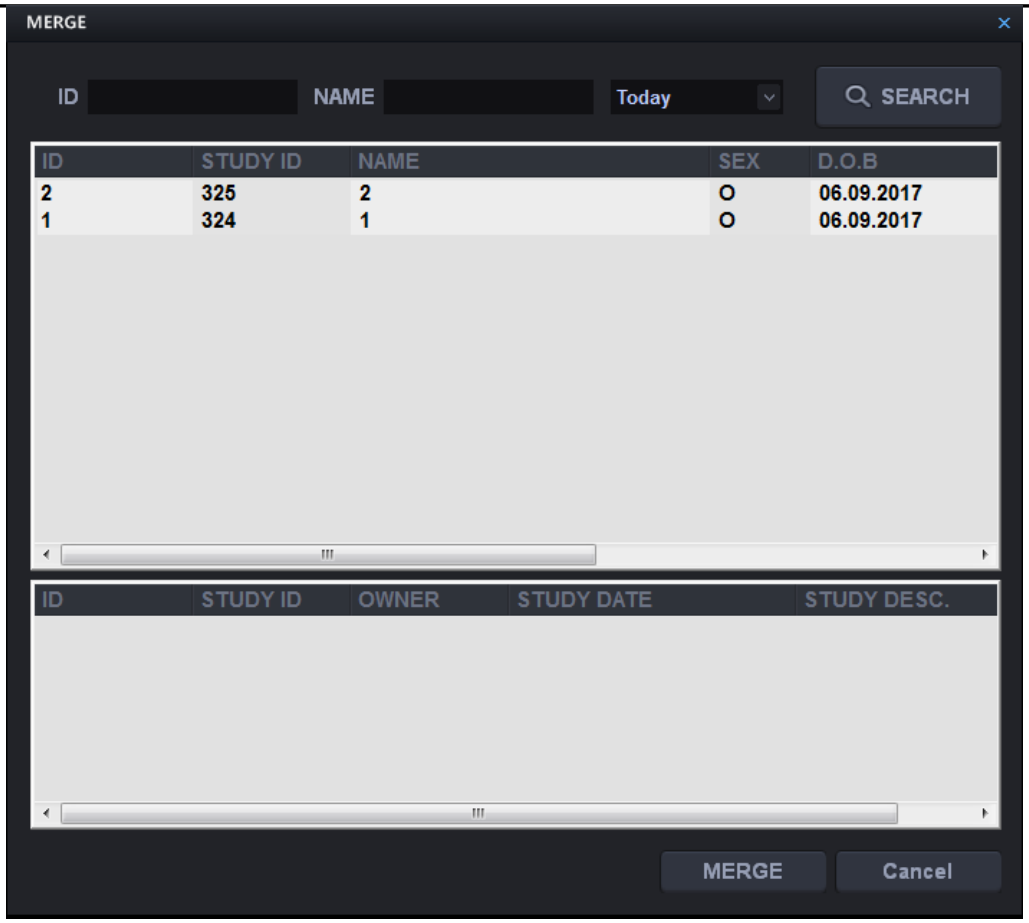
6-3-1. Main Menu



① OPEN : Open all images of the selected patient.

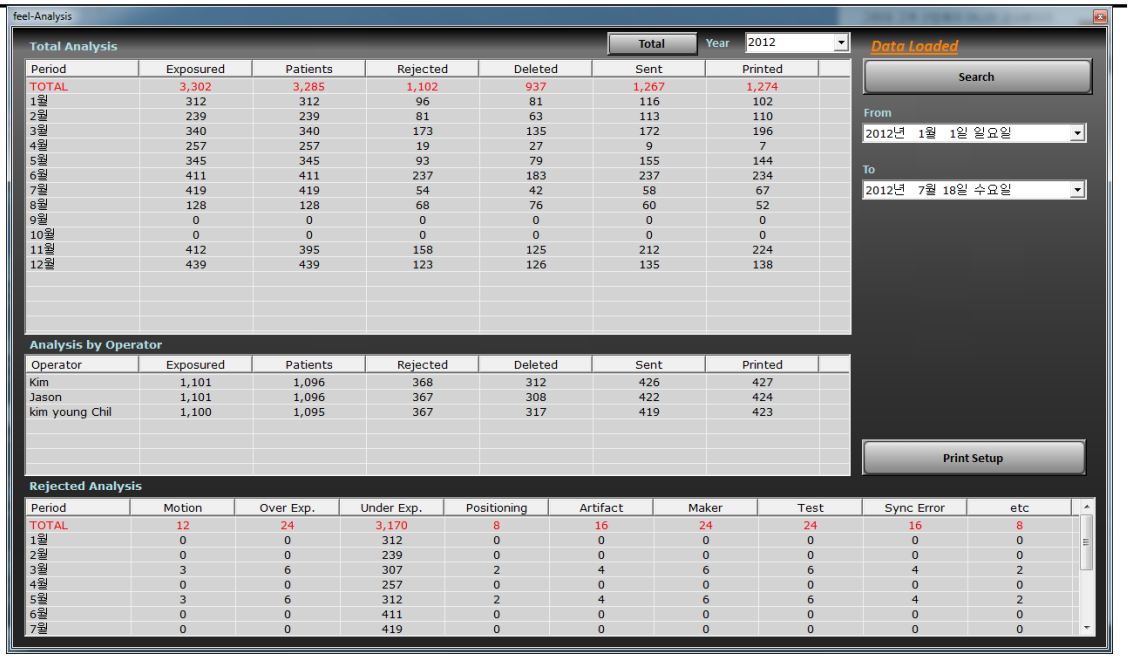
② EXPOSURE : Change to study mode for reexamination of the selected studies.

③ MERGE : Merge different studies. For example, the case happens that the different patient image is in the selected patient image folder or one patient's image is to merge after ER.



A. First select the patient to merge.
B. Click the MERGE button (from the main menu).
C. It shows the above pop-up after that.
D. Select the patient to merge according to the option or the patient list.
E. Select the study list of the selected patient and then click the merge button.
F. It merges all Study list.

④ ANALYSIS : This function is displayed about the entire analysis of radiography history as checking it at the s/w installation.



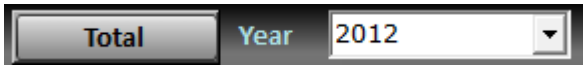
Period	Exposured	Patients	Rejected	Deleted	Sent	Printed
TOTAL	3,302	3,285	1,102	937	1,267	1,274
1월	312	312	96	81	116	102
2월	239	239	81	63	113	110
3월	340	340	173	135	172	196
4월	257	257	19	27	9	7
5월	345	345	93	79	155	144
6월	411	411	237	183	237	234
7월	419	419	54	42	58	67
8월	128	128	68	76	60	52
9월	0	0	0	0	0	0
10월	0	0	0	0	0	0
11월	412	395	158	125	212	224
12월	439	439	123	126	135	138

Operator	Exposured	Patients	Rejected	Deleted	Sent	Printed
Kim	1,101	1,096	368	312	426	427
Jason	1,101	1,096	367	308	422	424
kim young Chil	1,100	1,095	367	317	419	423

Period	Motion	Over Exp.	Under Exp.	Positioning	Artifact	Maker	Test	Sync Error	etc
TOTAL	12	24	3,170	8	16	24	24	16	8
1월	0	0	312	0	0	0	0	0	0
2월	0	0	239	0	0	0	0	0	0
3월	3	6	307	2	4	6	6	4	2
4월	0	0	257	0	0	0	0	0	0
5월	3	6	312	2	4	6	6	4	2
6월	0	0	411	0	0	0	0	0	0
7월	0	0	419	0	0	0	0	0	0

As above, analysis window is displayed.

This content includes the entire information of the applicable year by month.



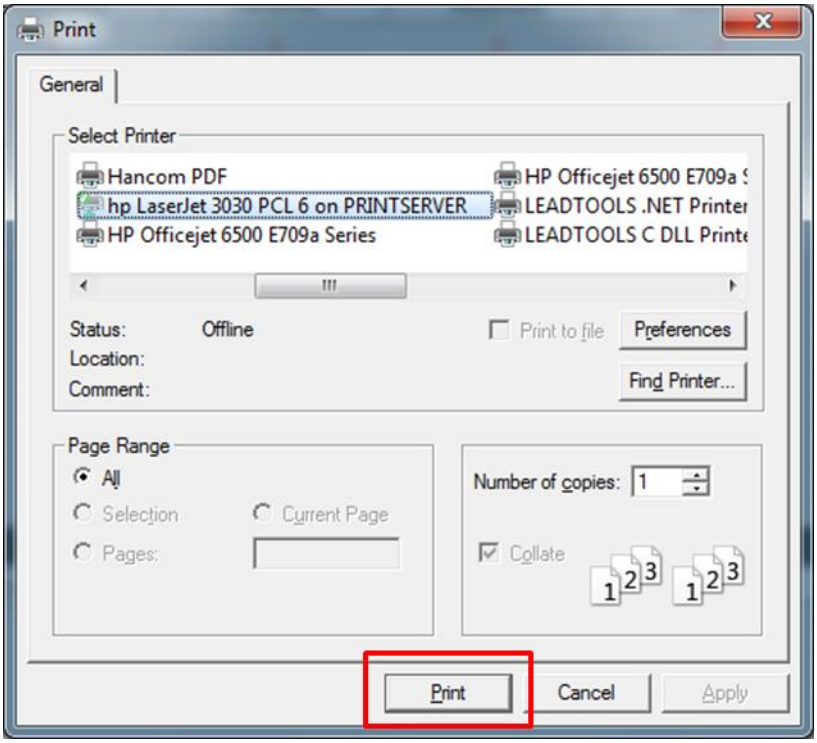
Press the "Total" after Selecting the applicable year

and the data of the applicable year is displayed.

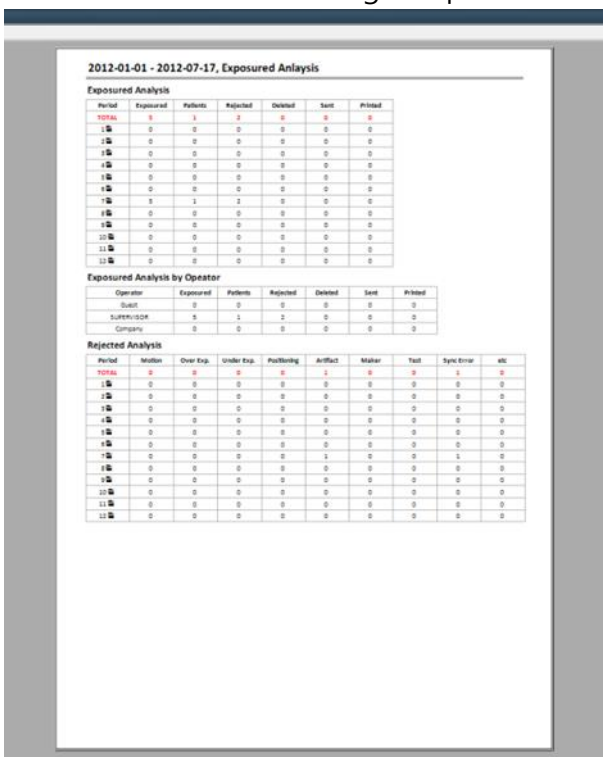
And press the "Search" to display the data after setting date.

Follows the below to print out the analysis data.

A. Press "Print Setup"



B. Press the red box and go to pre-view window



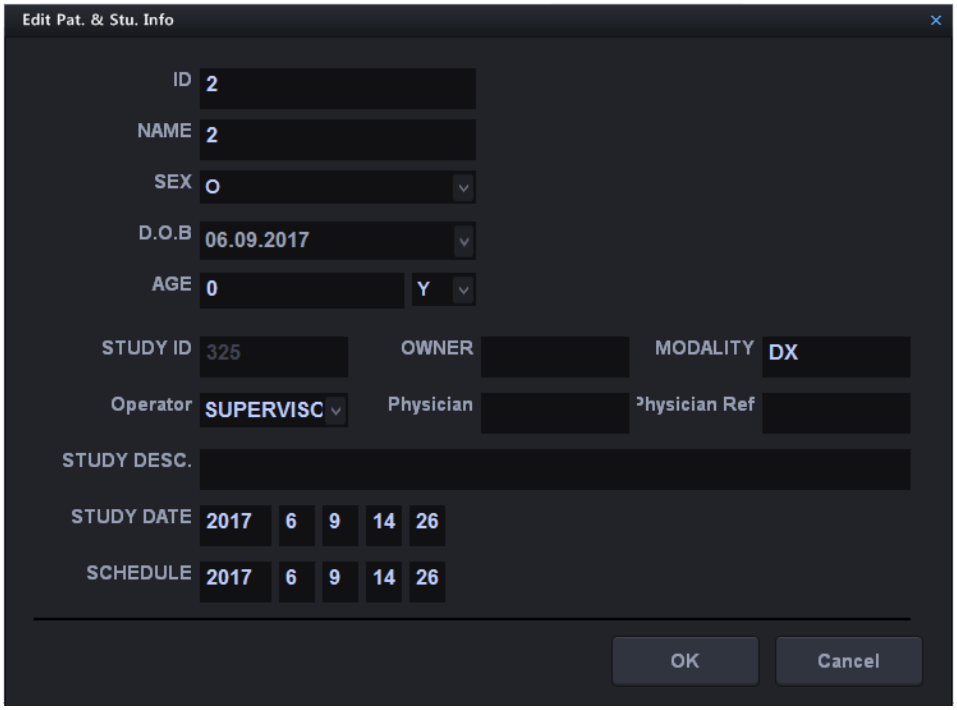
C. Press the printer icon to print out in pre-view window

6-3-2. Study List

This shows the study list of the patient selected from the patient list. Patient ID, study ID, accession number, study date & time, study description and so on are displayed. If you choose one of them, the series and images appear. Double clicking the item, you can check images included in the study selected on the review screen.

① EDIT

You can change the patient information as below. Check the account to know who modified it.



② DEL

You can delete the selected patient information. In this case, also check the account.

6-3-3. Thumbnail

This shows the thumbnail images of the selected study. Left-click to show the pre-view image.

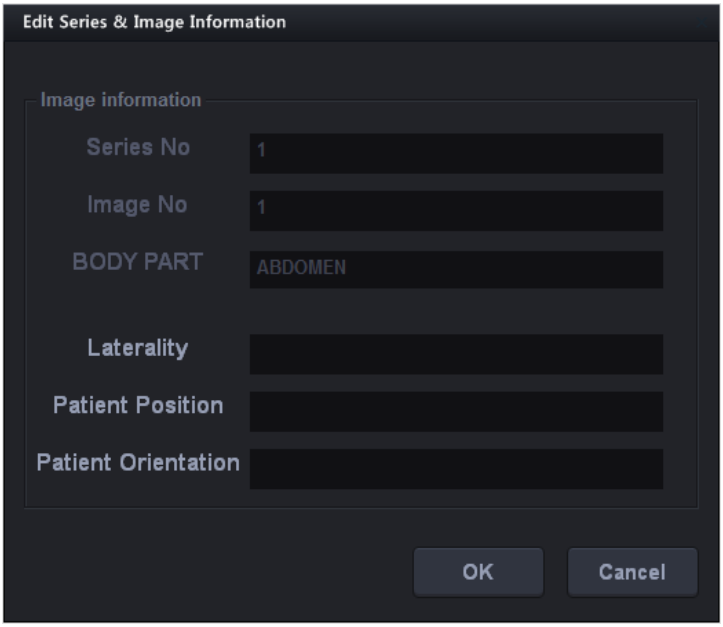
① Invert Sel.

A. Invert the selection of the image from the image list. Cancel the selected image and choose the unselected image.

B. With Inver Sel. Checked, if you select the patient list, study list and series list, the basic image is displayed without yellow box.

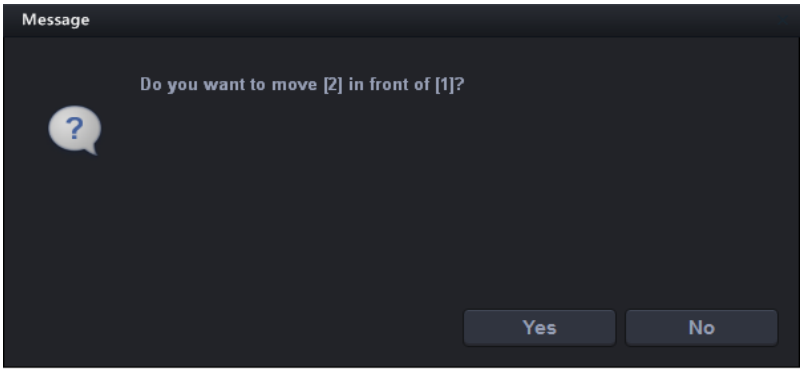
C. If it does not work normally after opening images, check whether or not the yellow box is on the image.

② The EDIT button is for changing the study information. Check the account to know who modified it.



③ You can delete the selected study. In this case, also check the account.

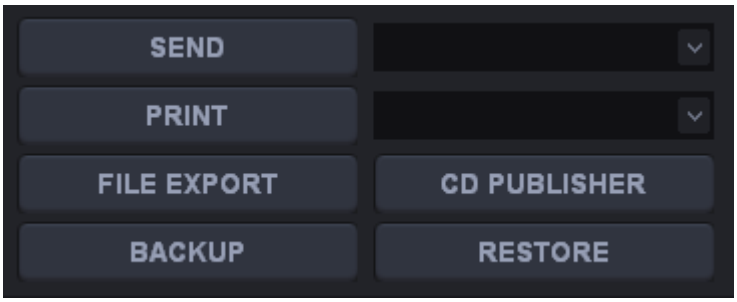
④ Image Sequence change: You can change the sequence of the image by drag & drop. Click after checking the message.



Note

This function works only at the same series so that you need to change the sequence at the selected series after choosing one. You can also do on the thumbnail screen when not expanding.

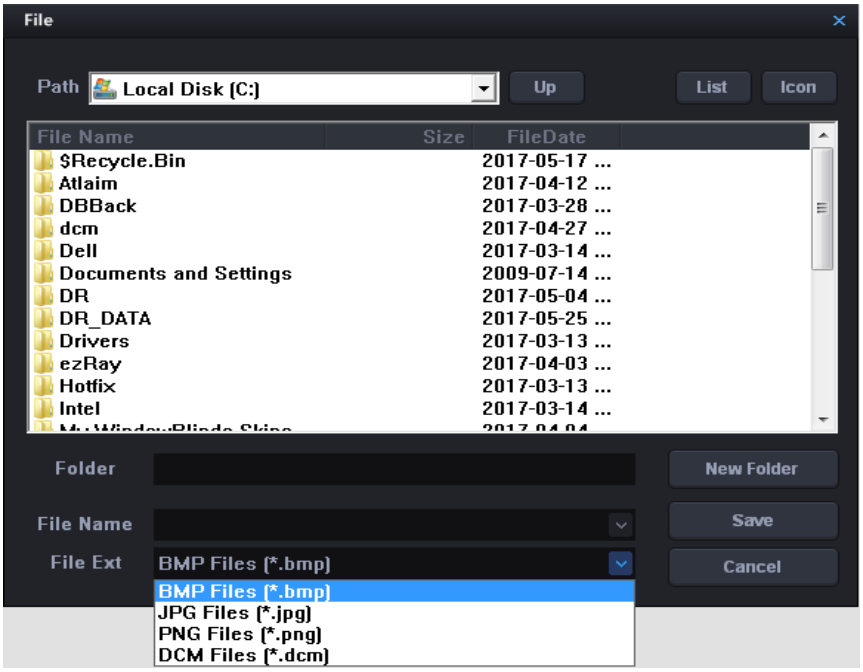
6-3-4. Command Button



Send You can send images selected (with yellow box) from the image list to PACS server selected on the right side. (Refer to PACS of configuration for setting PACS server)

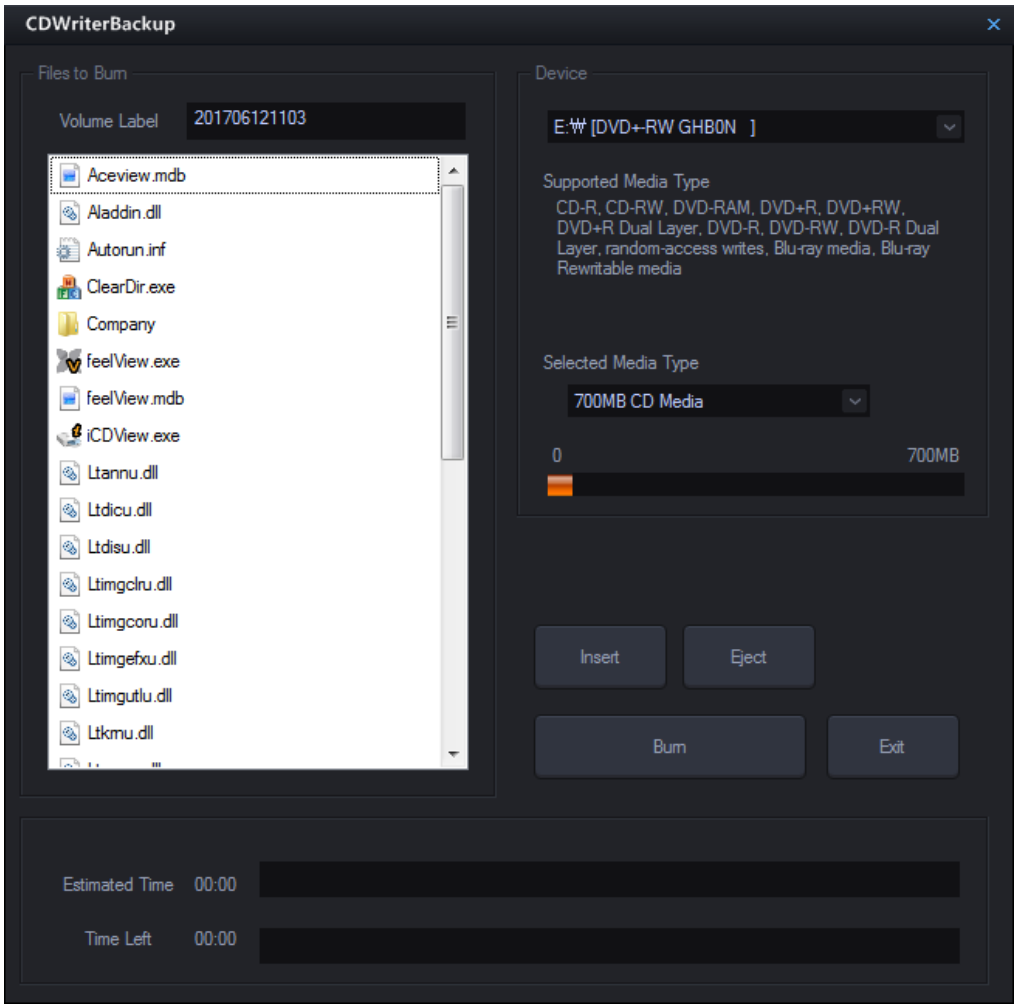
Print You can print out the selected image (with yellow box) form the image list.

File Export You can save the selected images in file.



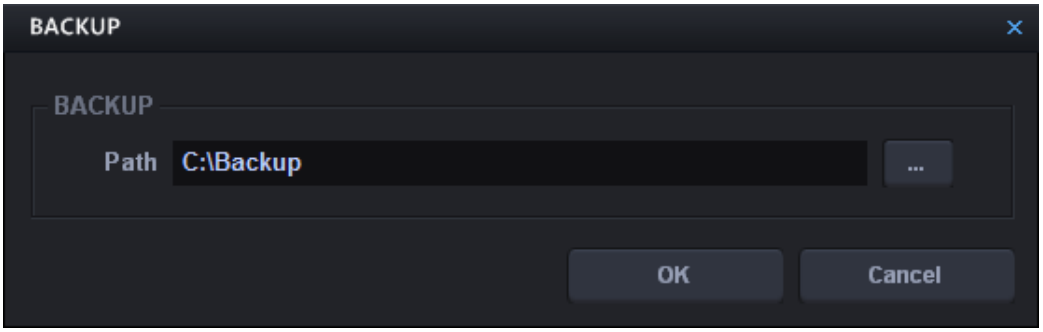
CD Backup

You can back up the selected images in CD with image viewer (so called CDPublisher)

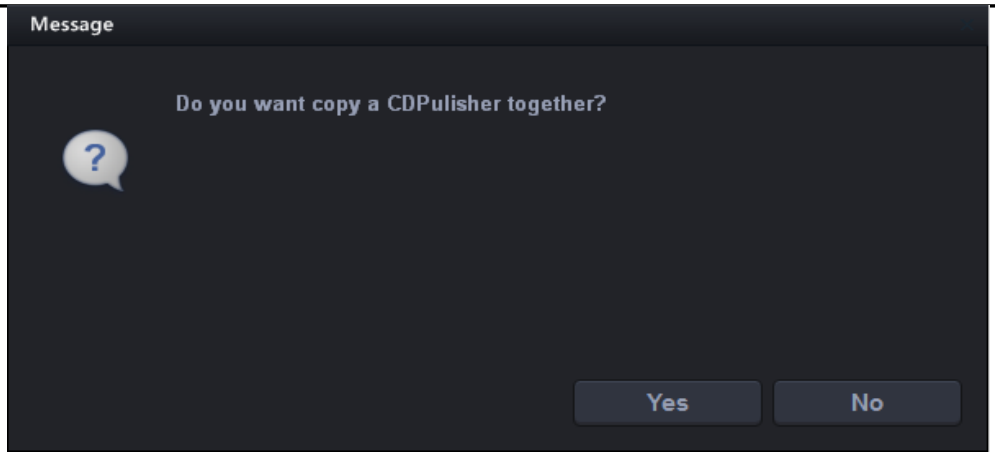


Backup

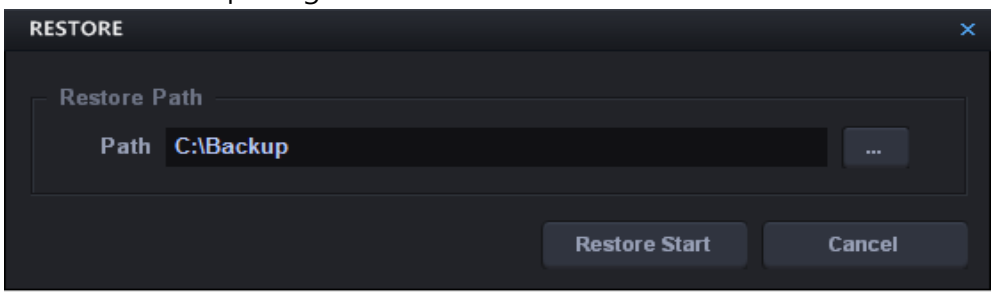
You can back up the selected images in the folder.



After process of backup, you can include or add image viewer(so called CDPublisher) as below dialogue box



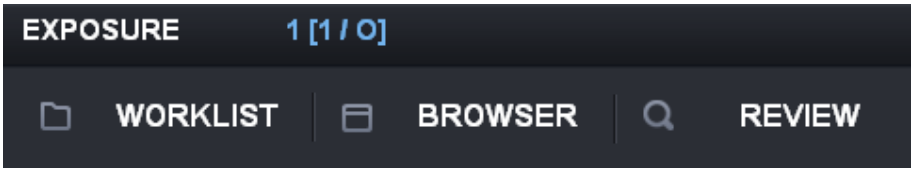
Restore It restores backup images.



The Restore function can work as DICOM import. You use this function when you register DICOM files from other sources to the DR-console software.

6-4. Review

Under the REVIEW mode, you can use the EXPOSURE screen for examining in the worklist and also REVIEW mode for checking and editing images in the browser.

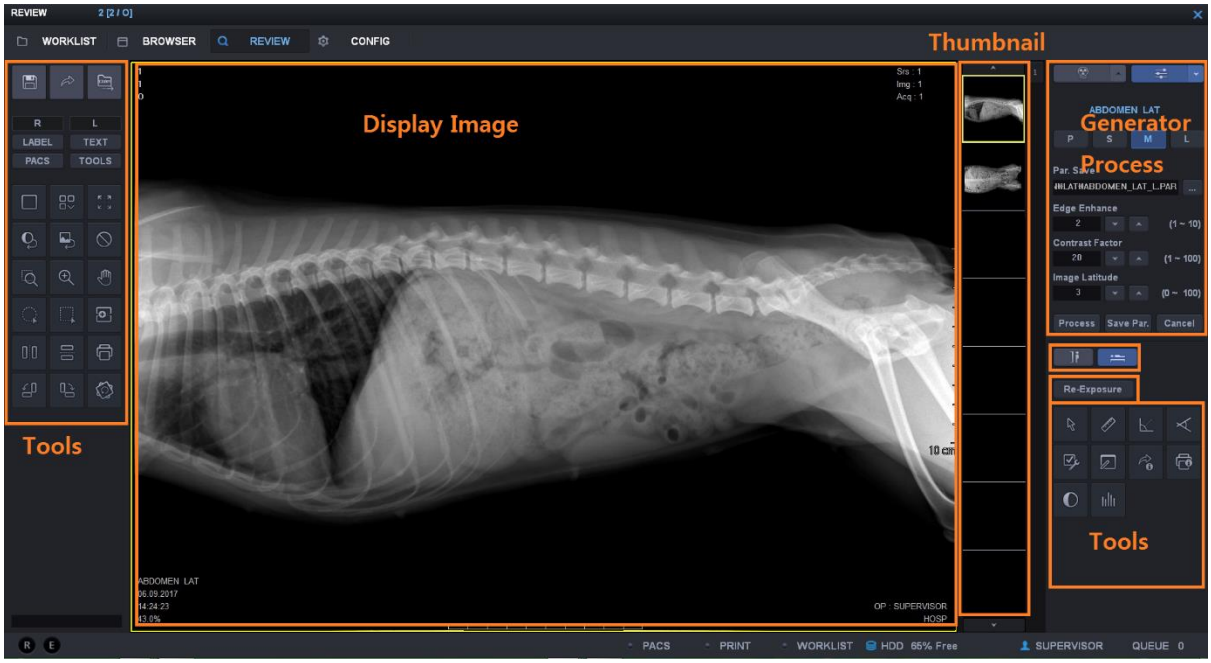


[From WORKLIST/BROWSER to EXPOSER]

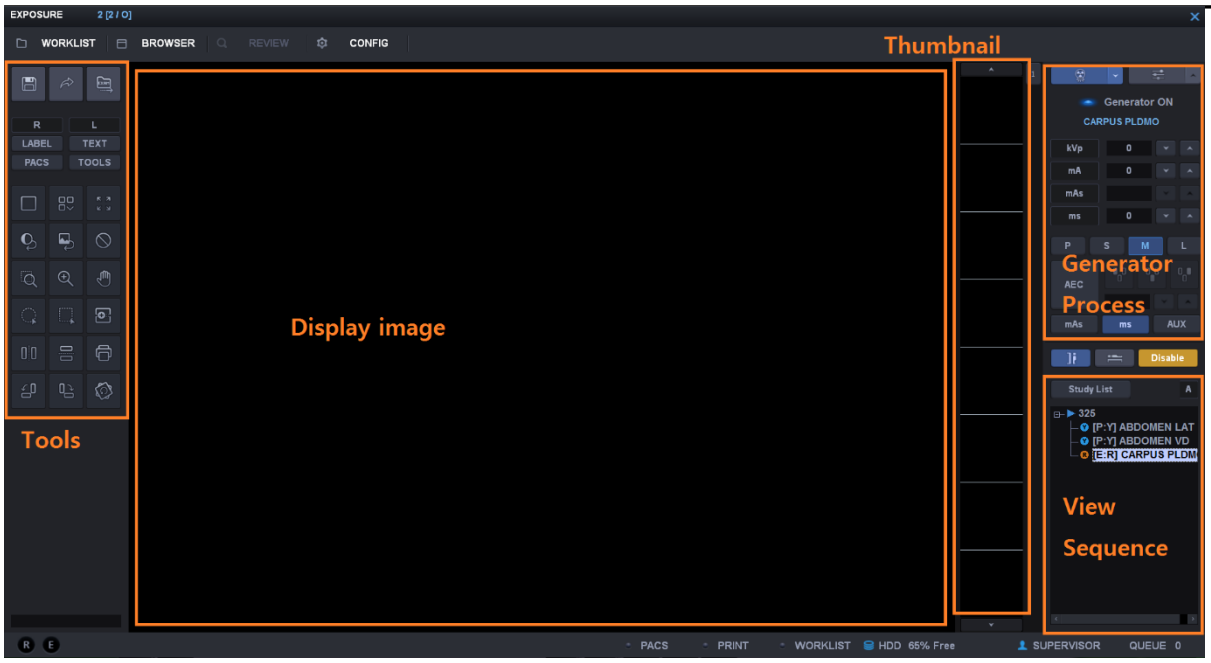
[REVIEW mode]

Note

The difference is whether or not it acquires additional images. In the case that study mode is taken in the Review mode, it is to expose the acquired images again.



[Review Mode]



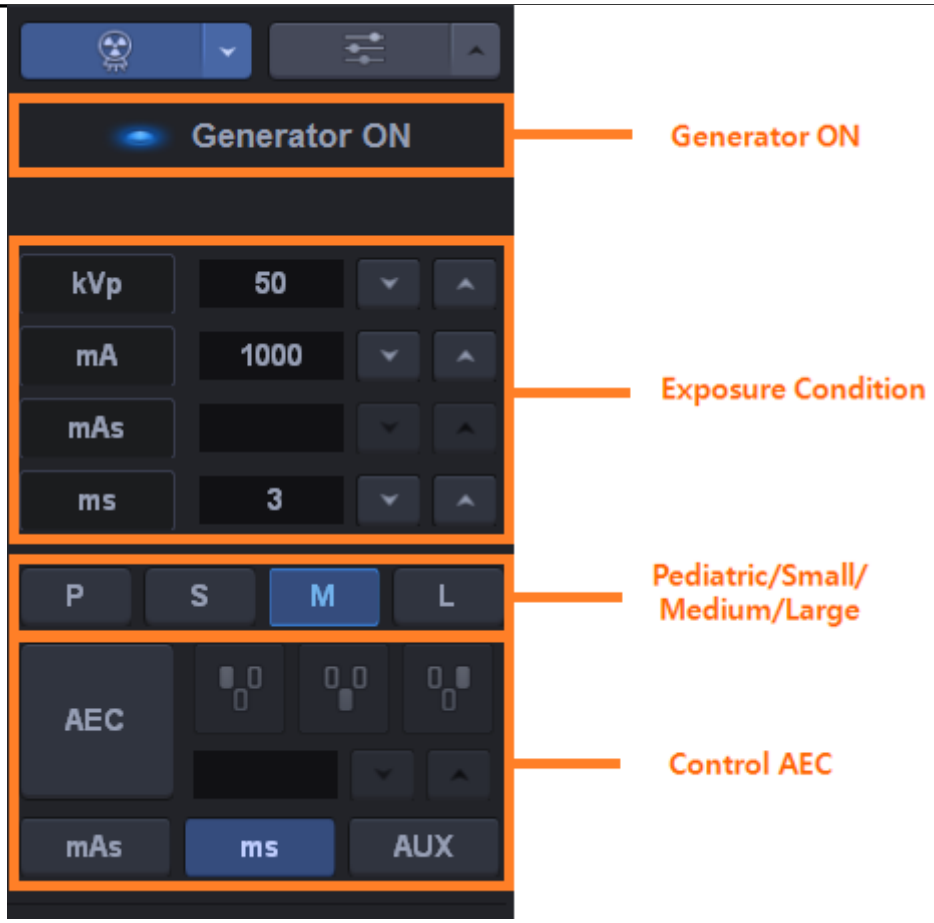
[Exposure Mode]

6-4-1. Stand & Table

Select the equipments for studying under study mode.

6-4-2. Generator

You can manipulate by pushing the Generator button when the generator integrated. You can change dosage and also AEC environment when AEC supported.



Note

"The condition values displayed on the screen are shown in the support type of the generator so that it does not display all condition values. "

6-4-3. Process

You can process displayed images by opening the Par file, applying the parameter, and changing the details. For setting the parameter file, refer to the 6-4-2.

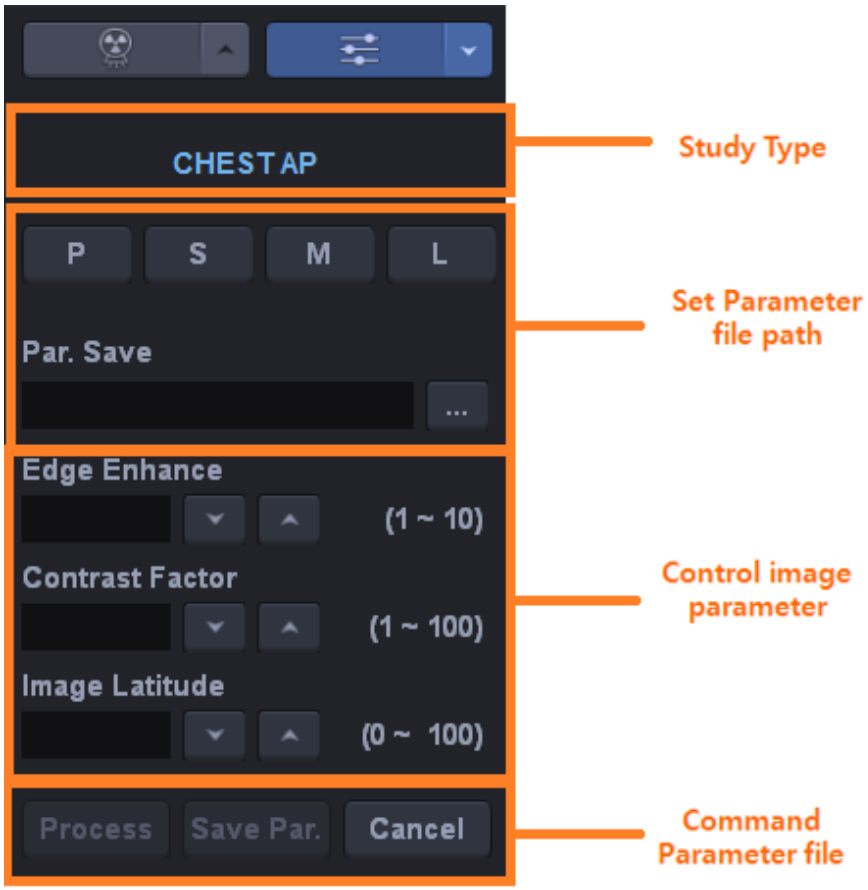
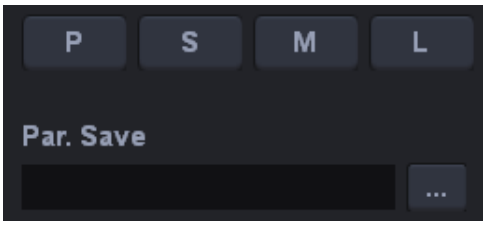


Image Processing Parameter setting

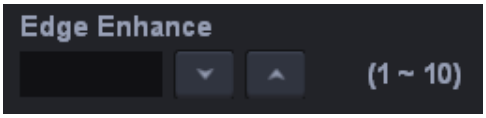


You can save parameter files for image processing. P/S/M/L buttons make it possible to select the parameter file chosen in advance according to the patient condition. If it is not set yet, it is displayed as blank.

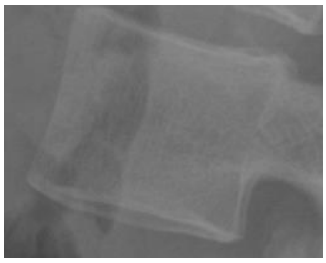
Note

You need to set for image processing. If the file is not in the pre-set route, all execution buttons for the below processing will get disabled.

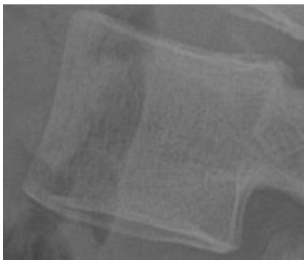
Edge Enhancement adjustment



This is for highlighting the edge of the image (separately with other parameters). As shown in the below images, it is used to watch the detailed part of the bone tissue.

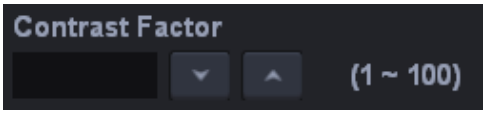


edge enhancement = 2



edge enhancement = 7

Contrast Enhancement adjustment

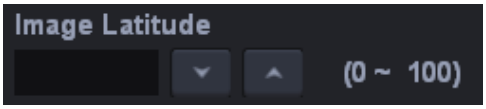


This is for highlighting the contrast of the image. It is related to latitude. If highlighted too much, it looks hard. As shown in the below images, C-spine's part is highlighted compared to the surrounding tissue.

Contrast enhancement = 2

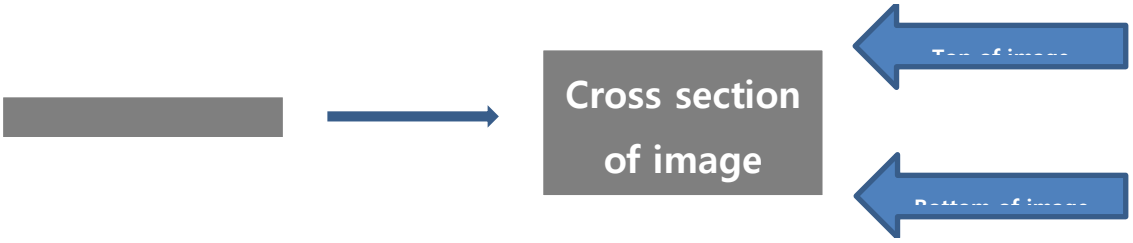
Contrast enhancement = 7

Latitude adjustment

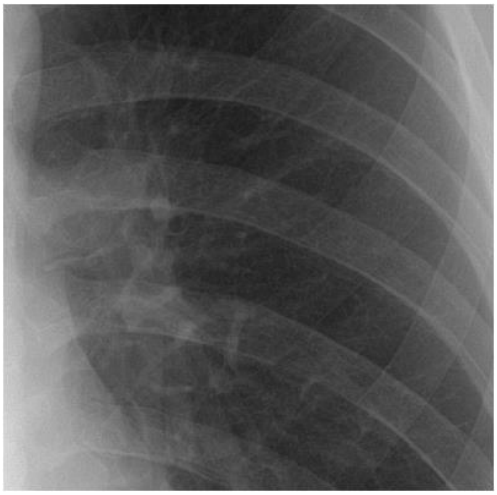


As the value gets higher, the lower part of the image is highlighted and the image gets thicker. It shows more realistic image for the two-dimensional image.

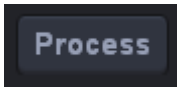
Please refer to the below.



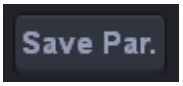
Latitude = 2



Latitude = 7

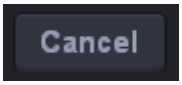


It executes image processing.



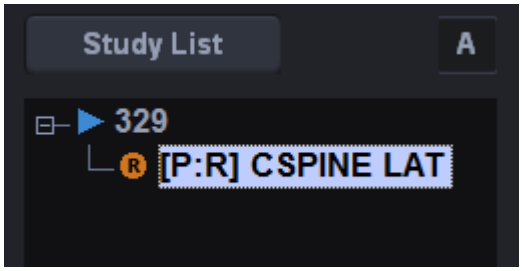
The modified Edge enhance, Contrast factor and Image latitude of the parameters for image processing are saved.

The saved parameters will process the same study part.

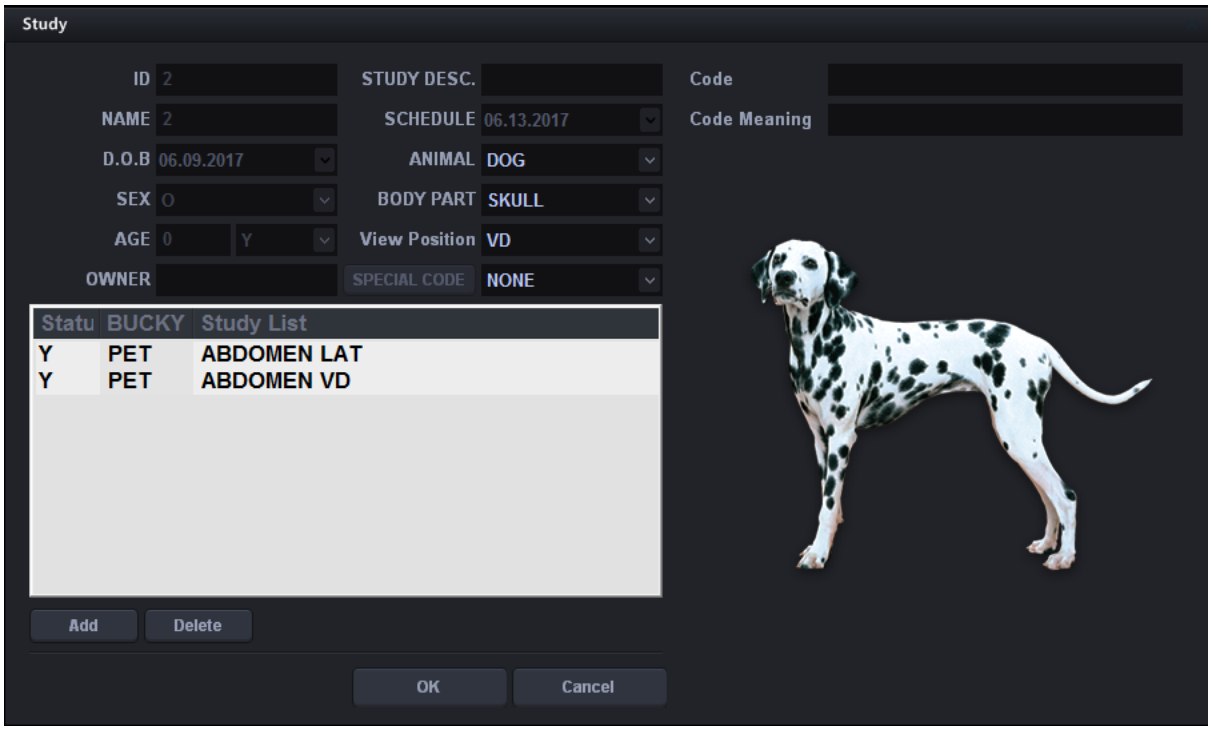


You can go back to the stage that image processing is not done. In other words, when displaying image data acquired from the detector, the part shown by the shutter is displayed as raw data if the shutter exists in the review mode.

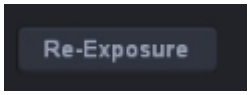
6-4-4. Study



"A" Button this function moves to the next study automatically.
Also it is possible to select the view position by user in auto mode.
As following the window, use to add or modify the view sequence.



6-4-5. Re exposure



If a saved image is under X-ray exposure or mismatch position, you can do re exposure x-ray using this button.

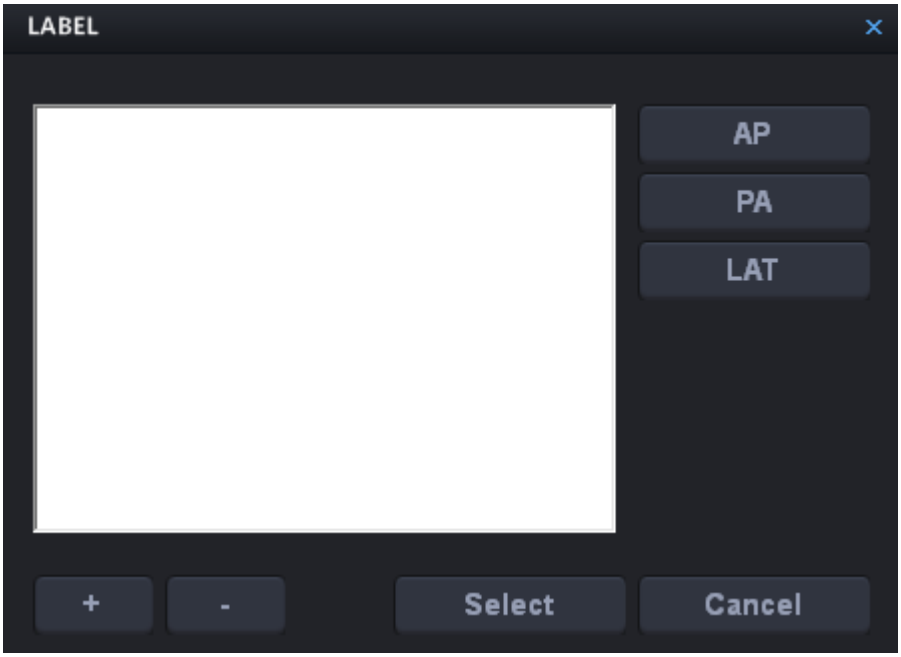
After clicked this button, the console software do wait until X-ray exposure.
If your system is integrated X-ray generator, the console viewer is changed exposure mode. Otherwise, the console viewer is not changed.
After acquisition of new image, you must select "accept" or not for new image.

Note

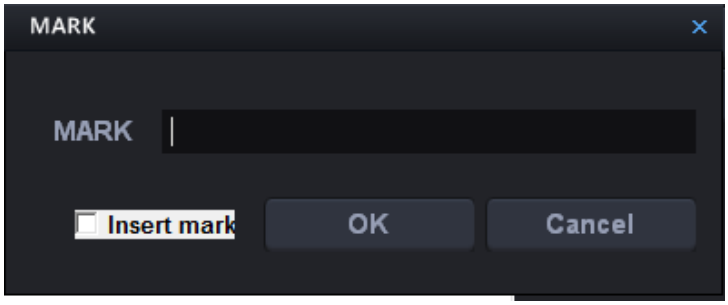
"If you do accept new image, You must choose carefully because the system delete old image."

6-4-6. R, L, MARK, TEXT

You can input the annotations on the screen.

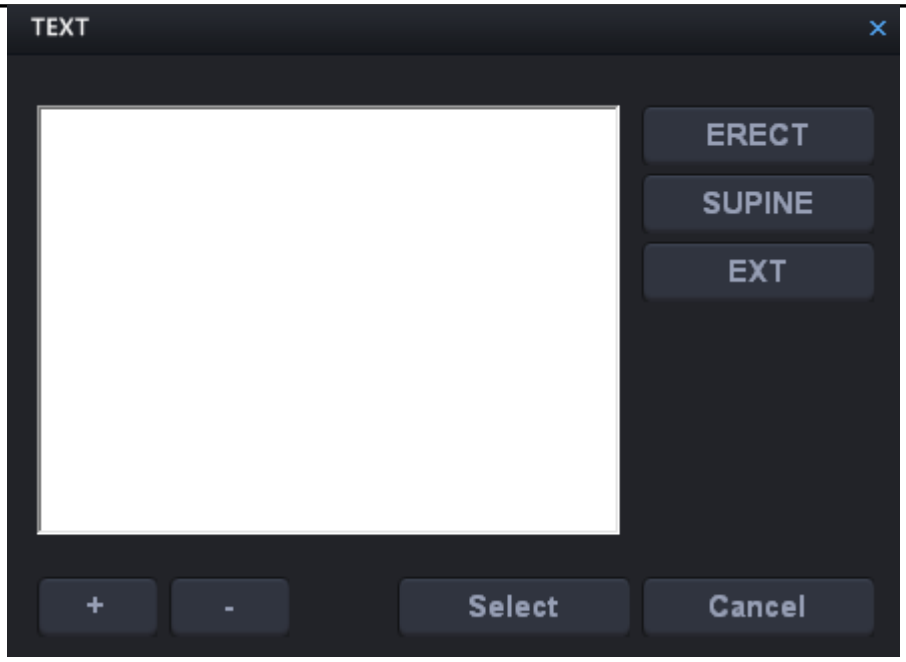


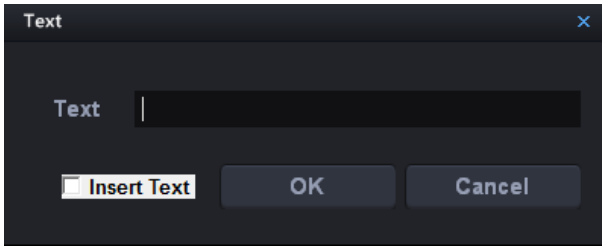
In the case of AP/PA/LAT, just click the LABEL to input on the screen. If you want to make a new mark, push + button.



Checking Insert mark and pushing OK button just adds to the MARK list. But, if you do the above process with Insert mark unchecked, it adds to the list and also shows the mark in the image part.
"SELECT" button shows the mark of the list on the screen.

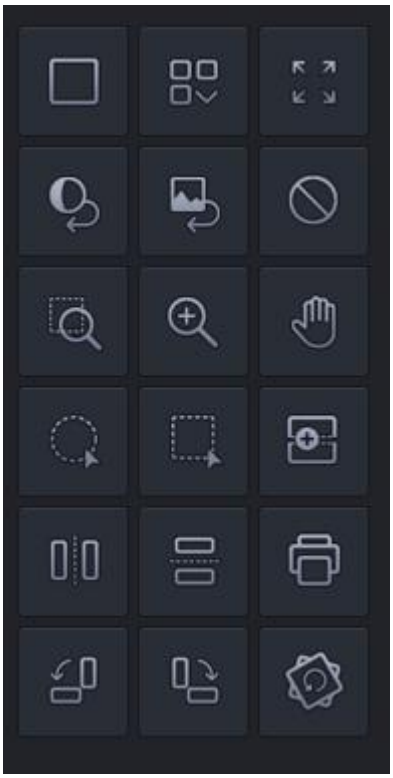
The following two photos are for adding Text and the process is the same as MARK.


TEXT
ERECT
SUPINE
EXT
+
-
Select
Cancel


Text
Text
Insert Text
OK
Cancel

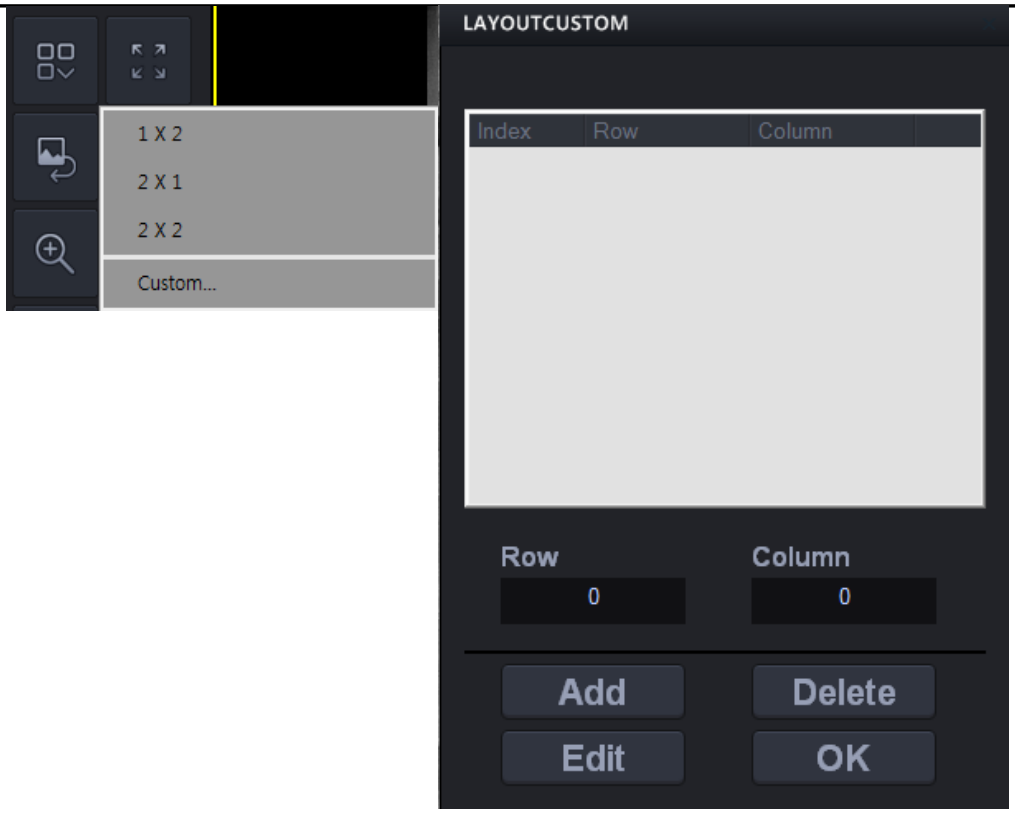
6-4-7. TOOLS ICON

Under the Review mode, you can edit images with Tools icon when the image is displayed on the screen.



Layout 1 X 1 Displays the big image without any split.

Layout Custom The operator can select how to split. Basically 1X2, 2X1, 2X2 are included. If you select “Custom”, you can input the layout as you want.
Input the row and column to add and push “Add” button.



WL Reset

Changing the Window width/level initializes to the original value of acquired image.

Image Reset

Initializes the image (cancelling ROI rectangle and processing).

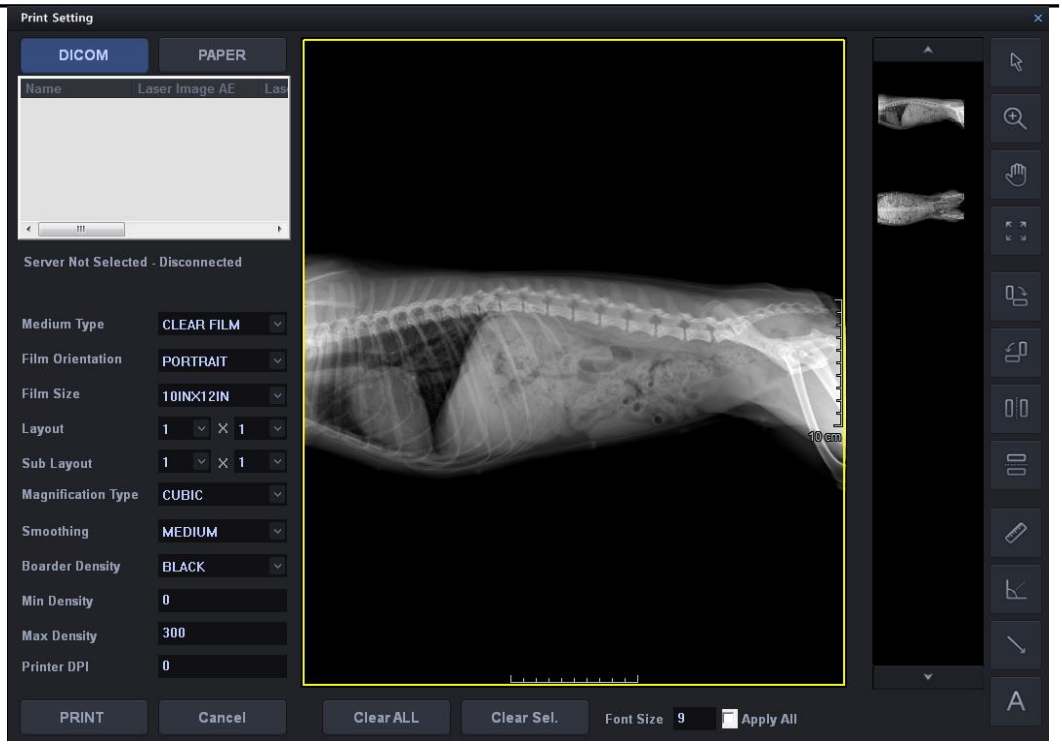
Panning

If you put your mouse pointer on the image and left click, you can move the image as the mouse pointer moves.

Zoom In/Out

If you put your mouse pointer on the image and left click, you can zoom out by moving to the upper side and zoom in by moving to the lower side.

 **Magnify Glass**	It can magnify/make smaller any screen area. If you move the mouse to the left upper side, pushing the Shift key, the screen will get smaller. Moving to the right upper side makes it larger. If you move to the upper side, pushing the control key, the image magnification ratio will get smaller. Moving to the lower side makes it larger.
 **Fit Image**	It fits the image to the screen size.
 **ROI Ellipse**	It selects the area to store in the form of circle or in the oval form. The outside of the area looks black.
 **ROI Rectangle**	It selects the area to store in the rectangle. The outside of the area gets removed.
 **Print**	It prints the image selected with DICOM printer.(Only DICOM printer) Clicking the icon shows the below preview.



A. The frame will change with aspect ration according to the size of the film.
B. 'You can check the present page/total page status.
C. When you cannot print in one screen, you can check the previous page or next page.
D. If you change film orientation, film size, layout, and so on, the screen is updated accordingly.

Save It saves the present image.

Save & Send It saves and sends the present images.

Close Study

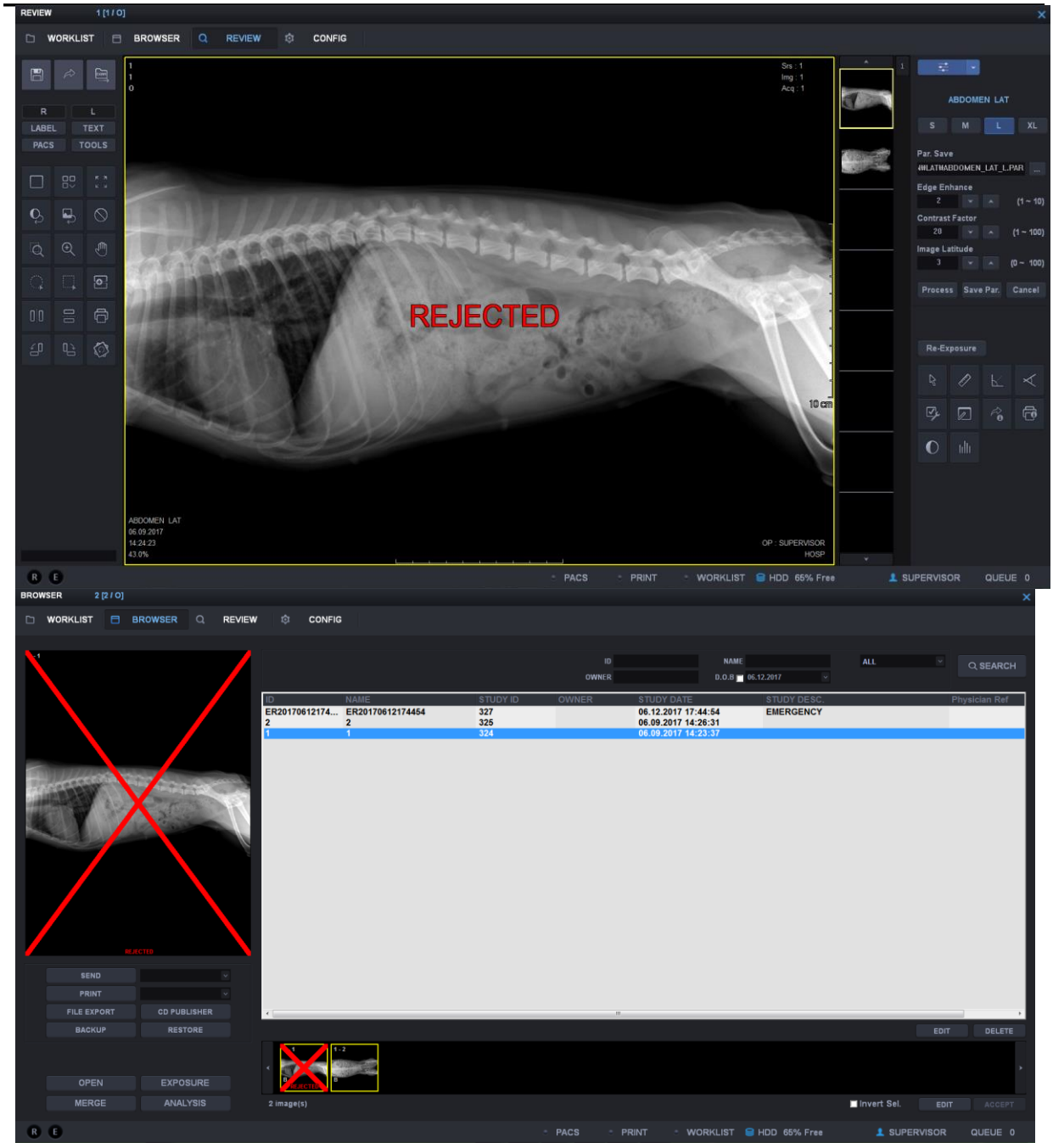
In image acquisition mode, it displays the Worklist screen after saving or sending the present images and then finishing the study.

Here 4 modes are supported.

① Save an image: It saves the present image.
② Save and send an image :
It saves and sends the present image.
③ Save an image and send all images :
It saves the present images and sends all images displayed in the thumbnail
④ Only send images : It sends all images displayed in the thumbnail without storage.

Cancel

In examination mode, it cancels to use images (not save images) and gets ready for another.
In the Review mode, it displays the review screen.
Reject function does not use the image without deletion and the image is displayed with “Reject” message.



Mirror It changes right and left.

Flip It changes up and down.

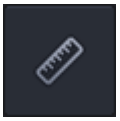
Rotate CCW It rotates the image 90° counter clockwise.

Rotate CW It rotates the image 90° clockwise.

Rotate Free It rotates by user default.

6-4-8. TOOLS ICON at Review Mode

Measurement Angle



Measurement Length

Invert(Pixel gray value)

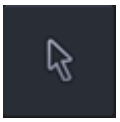
Line Profile(Histogram)

New SET

Code Manger

DICOM Storage Sending Status

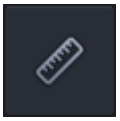
DICOM Printing Status



Default mode mouse

6-4-9. TOOLS ICON in Review mode

Measurement Angle



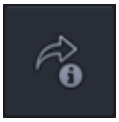
Measurement Length

Invert(Pixel gray value)

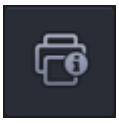
Line Profile(Histogram)

New SET

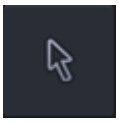
Code Manger



DICOM Storage Sending Status



DICOM Printing Status



Default mode mouse

6-4-10. TOOLS Menu

Under the Review mode, you can use below functions by clicking the TOOLS button.

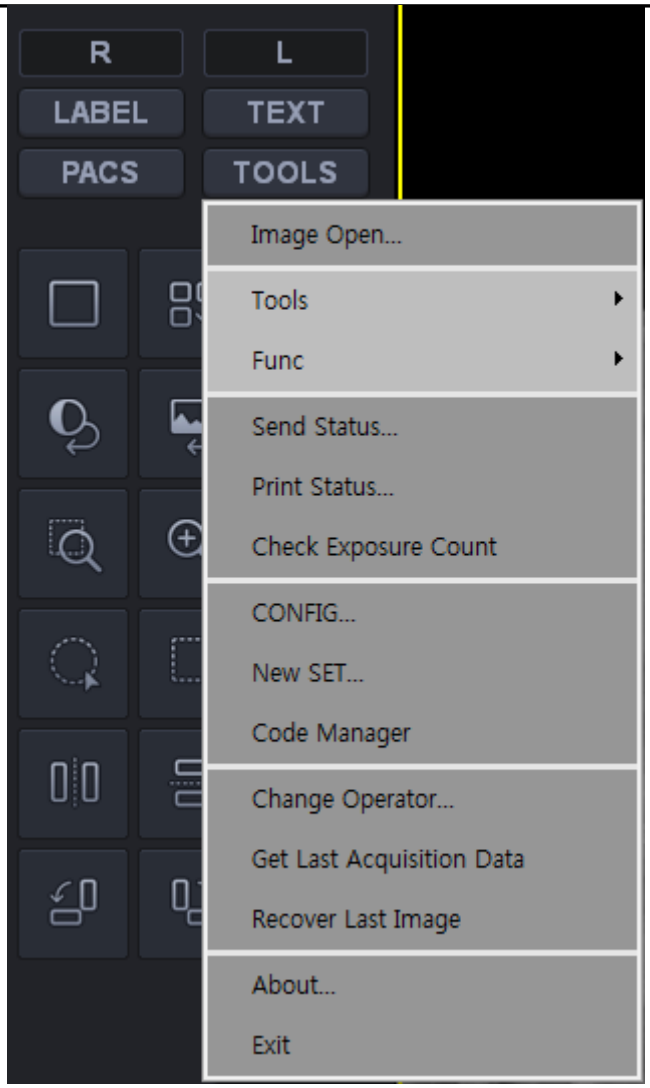


Image Open You can watch DICOM files from outside, not DICOM files stored in ZView.
You can use basic functions like watching images and window width/level.

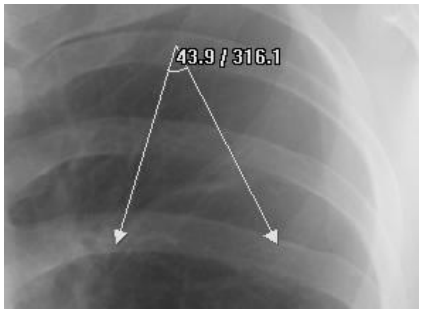
Tool

- **Histogram**

The histogram means the line profile here. If you draw a straight line on the image, you can see the distance and various values related to the line as below.

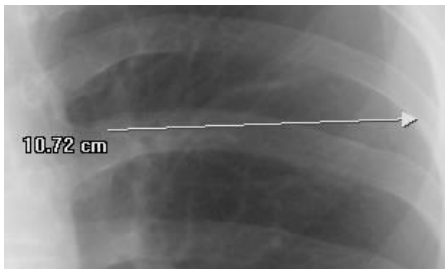
- **Measure Angle**

You can measure the angle on the image.



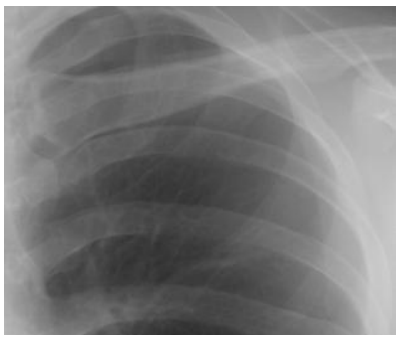
- **Measure Line**

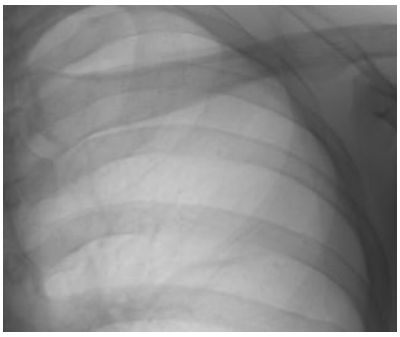
You can measure the line on the image.



- **Invert**

You can invert (negative) the pixel's value for each image. You go back to the original status by pushing again.





- **Length Calibration**

- This is for setting pixel spacing value of the detector at one's discretion.

- After x-raying, measure the pixel spacing value to compare with the real value and then input the real number. This is the calibration for the real distance when the real distance is different from that of the image taken.

1. Select Menu-Tool-Length calibration.
2. Check the distance on the image or the real distance and draw the line as long as the distance.
3. The screen as below will appear if you finish measuring the distance.

4. Measure displays the measured distance on the image.
5. Put the real distance in “Real”(Unit: mm).
6. Pixel Spacing value computed in Stand (selected Bucky) is displayed.
7. Reset disregards computed pixel spacing value and calls pixel spacing value (original value when installed) saved in Aceview.ini file to display.
8. Save saves the present pixel spacing value and closes the screen.
9. “Cancel” cancels the present work and closes the screen.

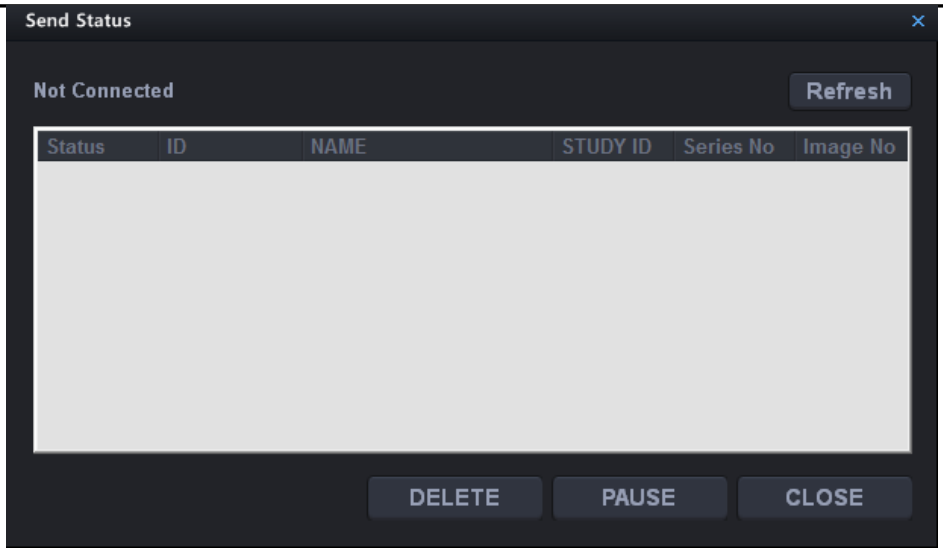
Note

It is very useful to do this measurement when installing first. Generally, the engineers do length calibration in installing.

Send Status

It displays DICOM file transfer QUE being transmitted to Network through DICOM storage service. The list will be deleted after transmitting images is over.

If the program is closed with transmission not finished, the warning sign appears to inform that QUE images remain and asks how to process.

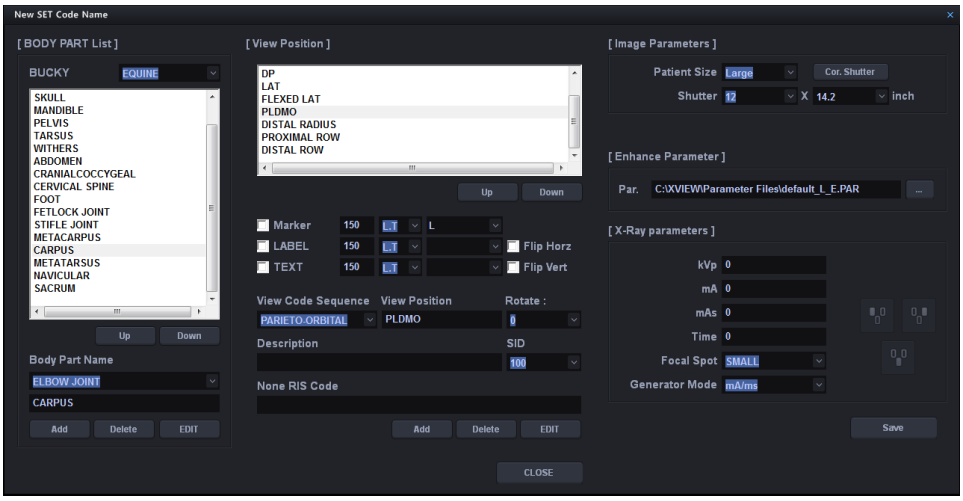


Print Status It displays DICOM file transfer QUE being transmitted to Network through DICOM print service. The list will be deleted after transmitting images is over. Other functions are similar to Send status.

Check Exposure Count It displays exposure count until now after initial installation.

Configuration, **Study Part & View Position will be explained later.**

NEW SET..



1) Body Part List

- **BUCKY**

  According to the PET or EQUINE, the body part embedded in the type will be displayed

- **Up**

  It moves the location of the body part selected from the list to the upper side.

- **Down**

  It moves the location of the body part selected from the list to the lower side

- **Body Part Name**

  It displays the name of the body part selected from the list or it can input the new body part to add.

- **ADD**

  It adds new body part items to the list through input window

- **Delete**

  It deletes the item of the body part selected from the list.

- **Edit**

  It changes the name of the body part selected from the list.

2) View Position

- **View Position**

  It displays all view positions corresponding to the body part selected from Study type list

- **Up**

  It moves the location of the view position selected from the list to the upper side.

- **Down**

  It moves the location of the view position selected from the list to the lower side.

- **Marker**

You can select whether you display laterality on the image or not, and the contents/position/font size of the items to display.

- **Label**

  You can select whether you display View Position on the image or not, and the contents/position/font size of the items to display.

- **Annotation**

  You can select whether you display Patient Direction on the image or not, and the contents/position/font size of the items to display.

- **Flip Horz**

  You can select whether you automatically apply Mirror function (The right part and left part of the image are inverted) or not.

- **Flip Vert**

  You can select whether you automatically apply Flip function (The upper part and lower part of the image are inverted) or not.

- **SID**

  You can select the x-raying distance (The distance between the tube and the detector).

- **Cross**

  This is for processing the cross line when using Trixell's detector.

- **Rotate**

  In the case that the detector top's position does not match according to the Bucky's configuration, you can rotate after image acquisition. You can also rotate partially on examined

part & View position screen. You can choose 0, 90, 180, and 270. The default value is 0.

- **View Position Name**

  It displays the name of View position selected from the list.

- **Description**

  It displays the description of View position selected.

- **Patient Orientation**

  You can select Patient Orientation in DICOM format.

- **View Code Sequence**

  You can select View position in DICOM format.

- **None RIS Code**

  You can input original hospital code to integrate with Worklist.

- **WW**

  You can select the window width value to apply in displaying images.

- **WL**

  You can select the window level value to apply in displaying images.

- **Add**

  You can add newly created view position items to the list.

- **Delete**

  You can delete view position items selected from the list.

- **Edit**

  You can modify the contents of view position items selected from the list.

3) Image Parameter

- **Patient Size**

  You can select the patient size.

- **Shutter**

  You can select the size of the part to save from images.

- **X-Ray Parameters**

  You can set the condition for x-raying from the Generator.

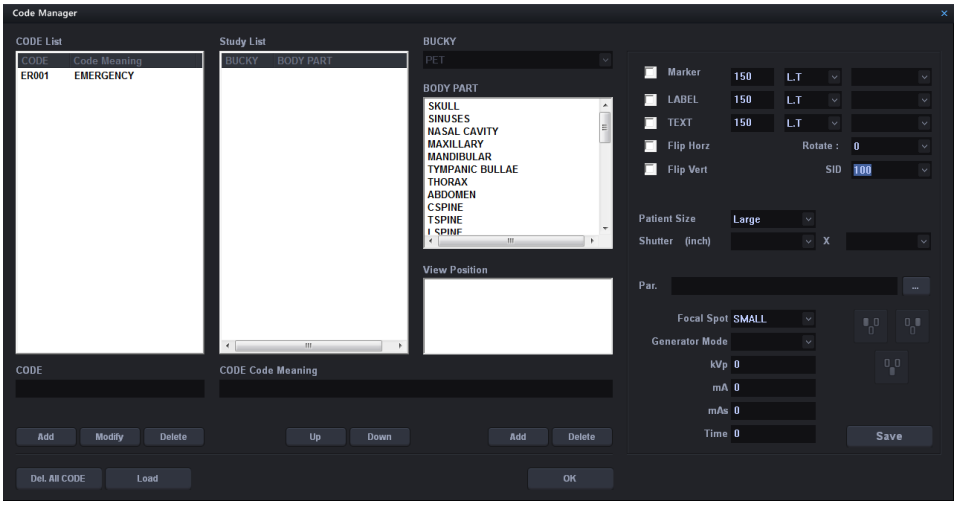
  1. kVp
  2. mA
  3. mAs
  4. Focal Spot : Large / Small
  5. Mode : mA/ms, mAs, AEC

- **Enhance Parameters**

  You can set values for image processing.

  - Par : Selects Parameter files for image processing.

Code Manager It matches View position items with RIS code.



① Code : It shows all inputted RIS codes.

A. Add : Registers inputted codes.

B. Edit : Edits selected codes.

C. Del. : Deletes selected codes.

② Item : It shows all view positions matching with RIS codes. selected.

A. Up : Gets the sequence of the selected item upper.

B. Down : Gets the sequence of the selected item lower.

C. Add : Adds items selected from View position to Item.

D. Delete : Deletes items selected from Item.

③ Del. All Code : It deletes all RIS codes.

④ Load : It inputs RIS codes through Excel file.

A. The file created in Microsoft Office Excel 2003 is readable.

B. Tab name should be “Code” and RIS code should be inputted in the second column.

⑤ OK : It closes Code Manager.

Change Operator It changes the operator.

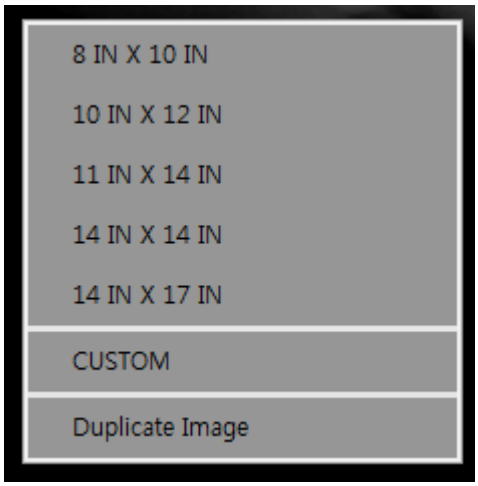
Refresh image It gets new standard image (Offset Image).

Refresh offset It saves the present standard image (Offset Image) with different name.

About It displays the program version and software serial number.

6-4-11. Pop-up Menu

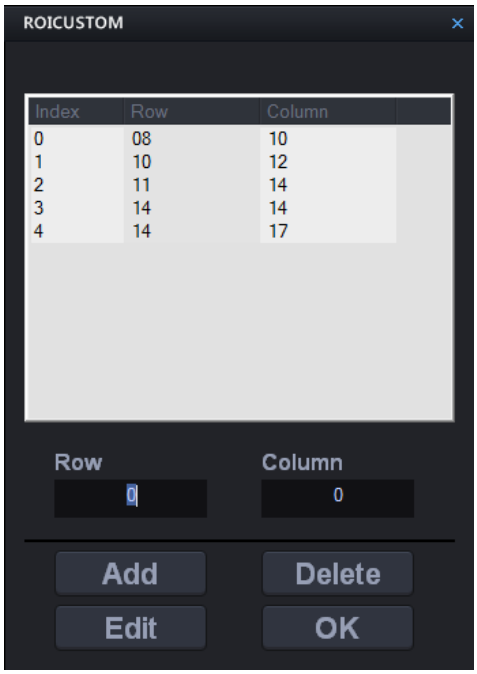
Under the Review mode or Exposure mode, if you right click on the image, the pop-up menu appears as follows.



Shutter size application

You can apply each shutter size.

Custom



If you want to add the shutter size, use the above Edit tool.
The unit is inch here.

Delete Image	You can delete the present image.
Processing	This is the shortcut that you can do image processing with originally set parameters again without going to the process tab when images look different from saved ones due to the initialization or other reasons in processing images.

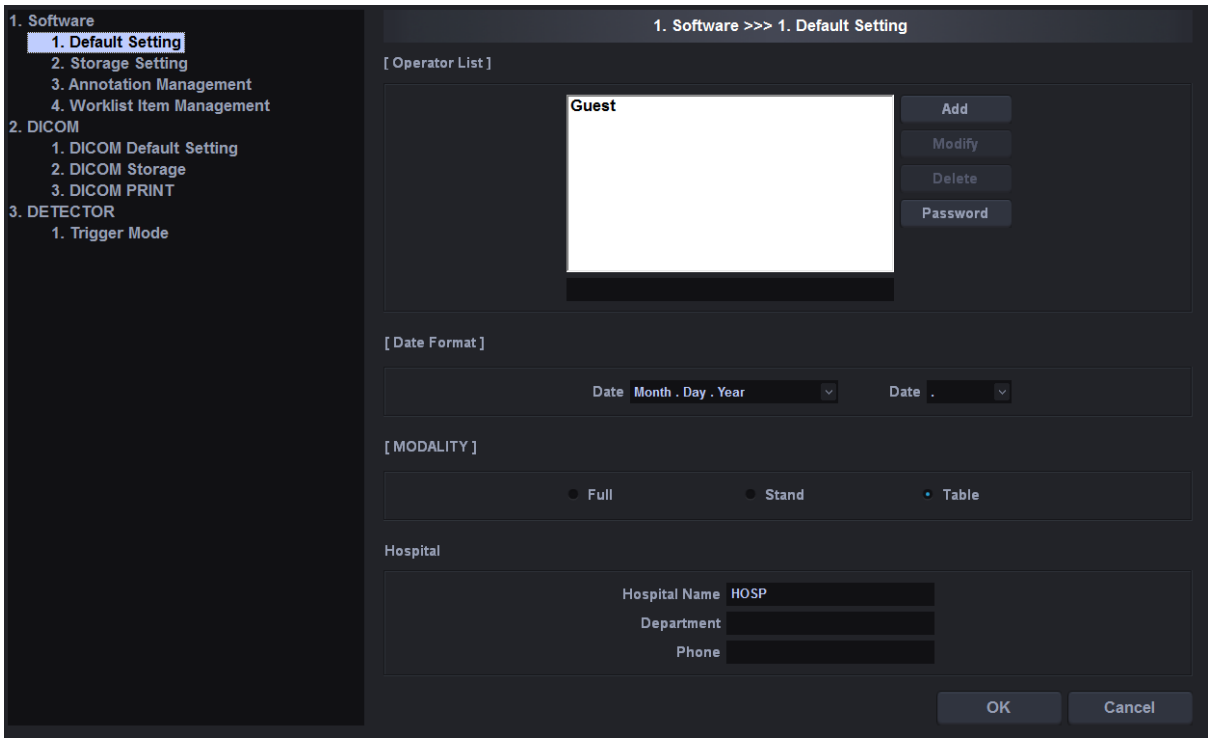
6-5.Configuration

This is for setting the whole system.

You can set various networking services, system, and data format.

6-5-1. Default Setting

It sets the user list, hospital name, and date.



Operator List You can create the operator list.

- Add: Adds new operators. Input the name of the new operator at the bottom of the window and then click "Add".
- Modify: Changes the selected operator information.
- Delete: Deletes the selected operator.
- Delete All : Deletes all registered operators.

Information You can input the hospital name.

Date Format You can select the date format.

Modality You can select equipments to connect.

- Stand : Stand only type

- Table : Table only type
- Full : Stand + Table type

6-5-2. Storage Setting

You can select image storage route and backup route, and set the automatic deletion function.

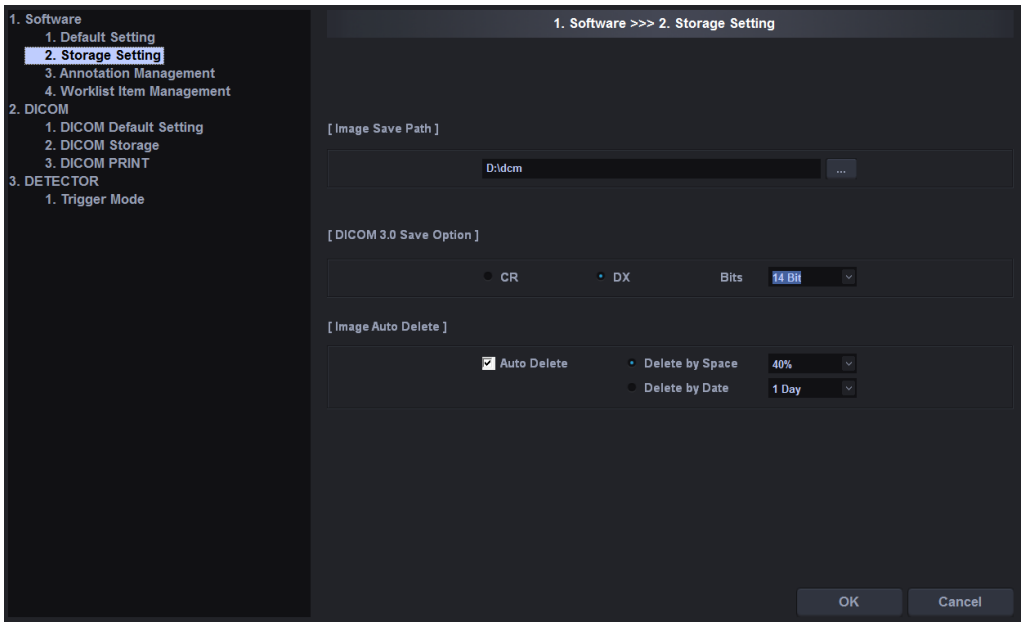


Image Save Path You can select the route to save images. Here storage route means the path for saving processed images as well as raw images acquired from the detector.

DICOM Save Option
- You can select the type of the modality when saving images in DICOM format.
- You can select the bit number of the image.

Image Auto Delete You can select whether you use the automatic image deletion function or not and conditions.
Delete by Space: Deletes if the space is less than the set percentage.
Delete by Date: Deletes older images than the selected date from x-ray day.

Note

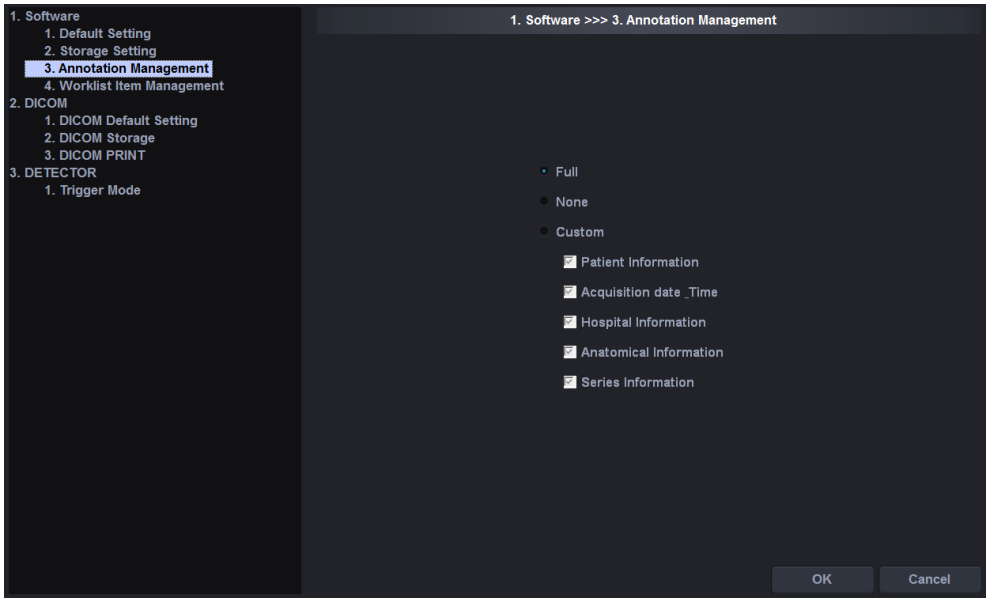
If the disk is full, you cannot x-ray and save images. Therefore, we recommend the partial setting. Once set, it deletes automatically so that you need to manage backup schedule in advance.

Database It provides functions for managing database.

- Compress : compress database.
- Backup : Backup database.
- Restore : Restore database.

6-5-3. Annotation Management

You can select the information to display on the image.



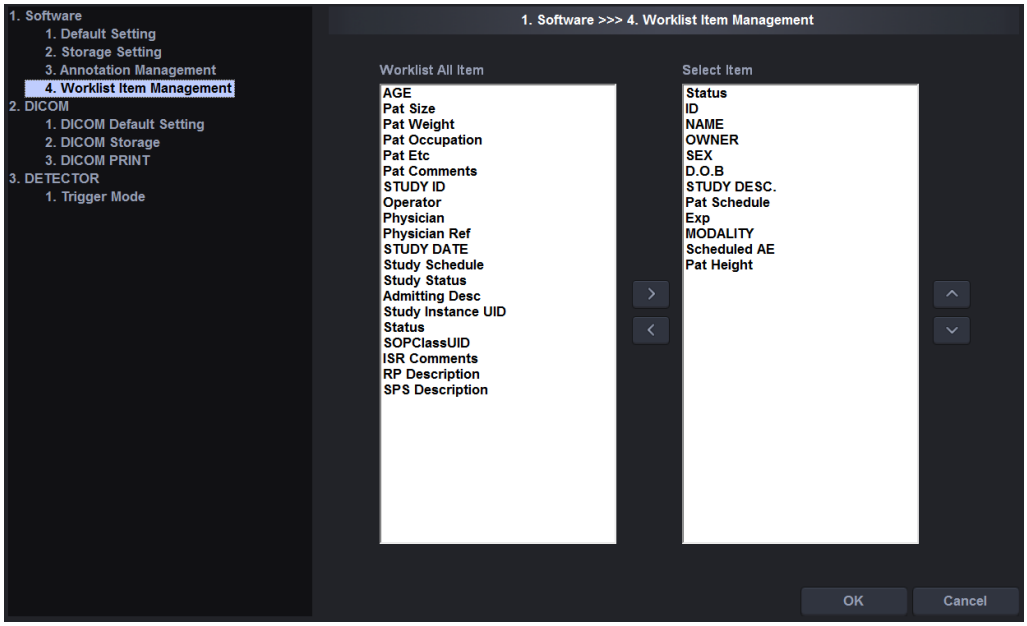
- Patient Information : Patient ID, name, sex, date of birth
- Acquisition date & time : Study date, operator name
- Hospital Information : Hospital name
- X-Ray Parameters : X-Ray exposure conditions (kV, mAs, Time)
- Anatomical Information : Laterality & View Position.
- Series Information : Series No, Image No, Acquisition No.

Full Displays all information on the image.

None	Does not display any information on the image.
Custom	Displays information that the operator selects at discretion.

6-5-4. Worklist Item Management

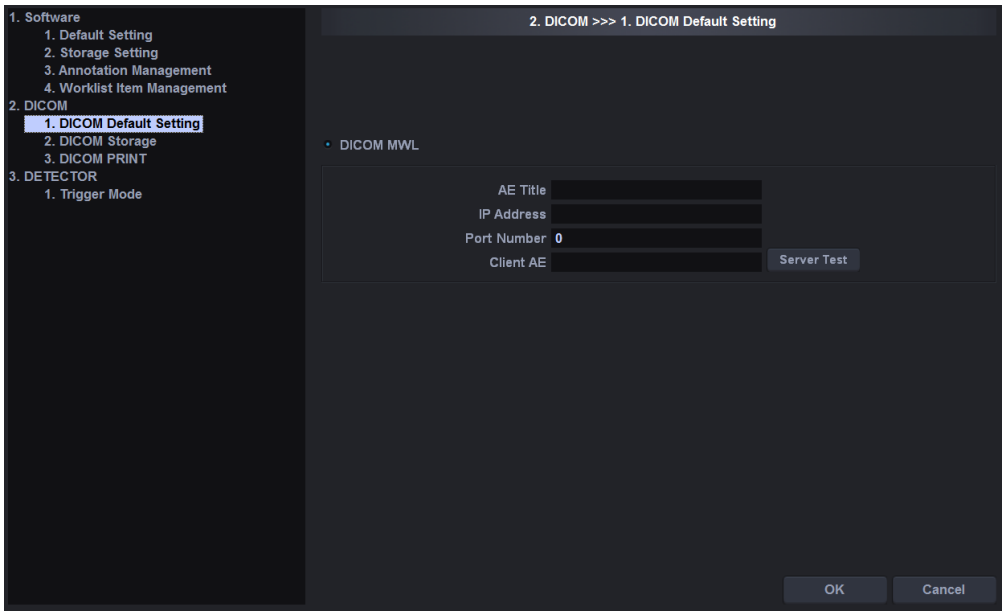
You can select the item to display in the worklist.



Select the item to add from the Worklist All Item and push ">" button. For changing the sequence, use the up and down buttons.

6-5-5. DICOM MWL(Modality Worklist Server Setting)

You can set the server's environment and client's environment for using DICOM Modality Worklist service.



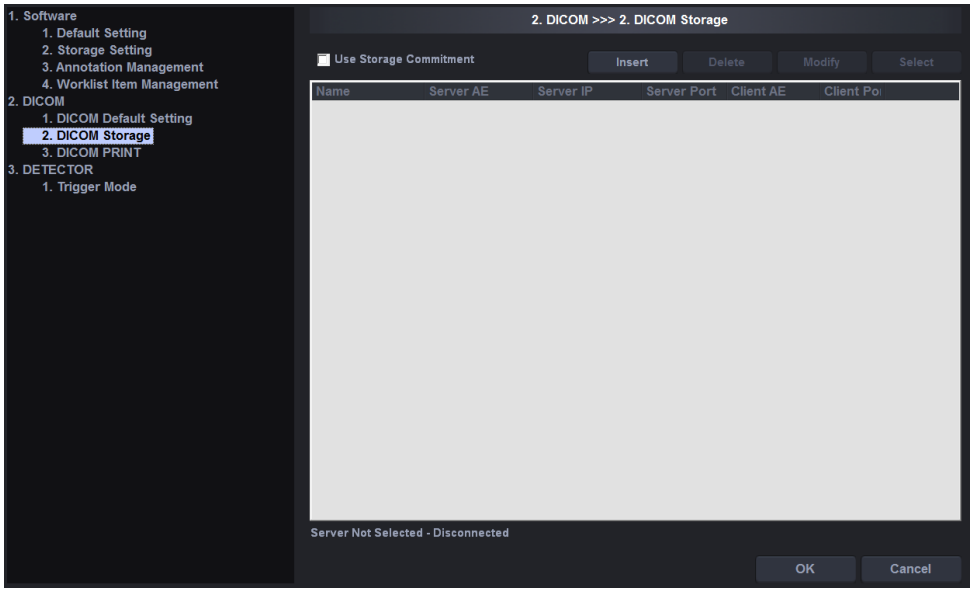
Server You can set the server's environment, providing DICOM Modality Worklist service.

- AE Title
- IP
- Port

Test You can check the server works normally.

6-5-6. DICOM Storage

This is to set the server's environments for DICOM transmission.



List

① Name : Displays the server name. The same name as Server AE will be displayed.

② Server AE : Displays the server's AE title.

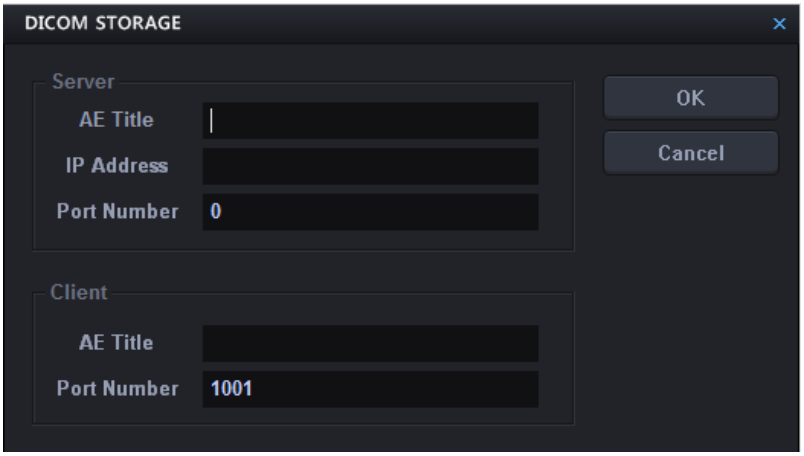
③ Server IP : Displays the server IP.

④ Server Port : Displays the server port.

⑤ Client AE : Displays client's AE title.

⑥ Client Port : Displays client port.

Insert It adds new PACS server (DICOM Storage SCP).



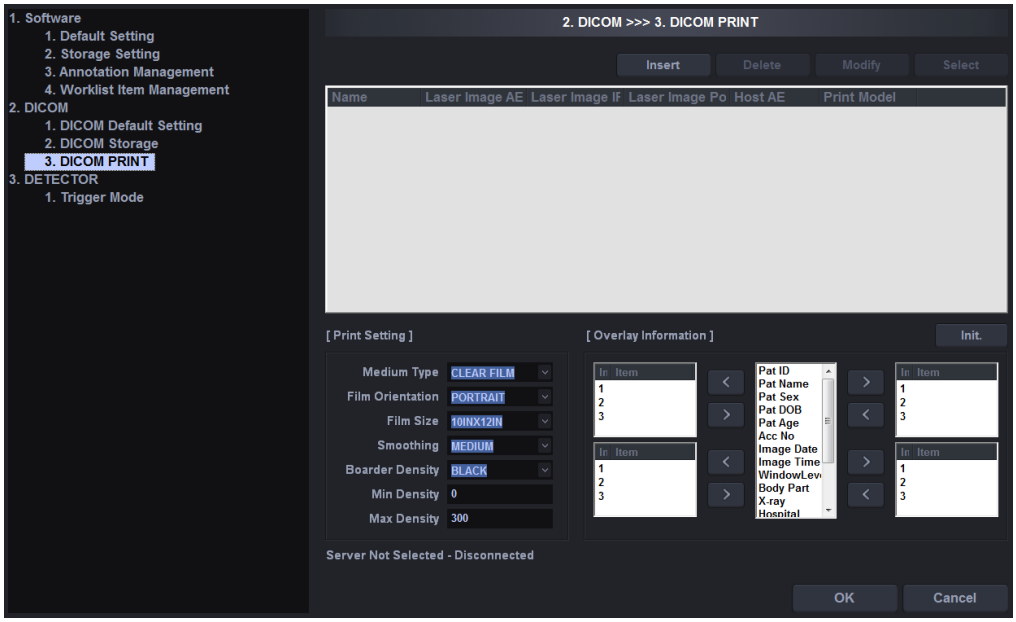
Delete It deletes the setting of the server selected.

Modify It changes the setting of the server selected.

Select You can select the setting of the server to access to among various server settings. If you want to select with the mouse, the check box will change into “checked” after the message “connected” appears from the bottom.

6-5-7. DICOM Print

You can set the server’s environment for DICOM Print.



List

- Name : Displays the laser printer name. The same name as Server AE will be displayed.
- Laser Imager AE : Displays the laser printer’s AE title.
- Laser Imager IP : Displays the laser printer IP.
- Laser Imager Port : Display the laser printer port.
- Host AE : Displays host’s AE title

- Print Model : Displays the print model.

Insert You can add new printer's setting.

Delete You can delete the setting of the printer selected.

Modify You can change the setting of the printer selected.

Select You can select the setting of the printer to access to among various server settings.

Print Setting You can set the film and printer.

- Medium Type : Selects the type of film.
- Film Orientation : Selects the direction of film.
- Film Size : Selects the size of film.
- Smoothing : Selects the process type of printer.
- Boarder Density : Selects the boarder density of film.
- Min Density : Selects the minimum density area of film.
- Max Density : Selects the maximum density area of film.

Overlay information You can choose the information to be displayed with images on film.

Appendix I : Simple Workflow