

	DXMapper User Manual	Document No.	DRT-MAN-014
		Revision No.	Rev. 0.3
		Page	1 of 24

DXMapper

Digital Radiography Calibration Software

User Manual



DRTECH	DXMapper User Manual	Document No.	DRT-MAN-014
		Revision No.	Rev. 0.3
		Page	2 of 24

Contents

1	Introduction	3
1.1	Introduction.....	4
1.2	Software overview	5
1.3	Copyright Notice.....	6
1.4	Contact Information	6
2	Installation	7
2.1	System requirement.....	8
2.2	Install.....	9
2.3	Uninstall.....	12
3	Instruction	13
3.1	Function description.....	14
3.2	GainMap calibration	15
3.3	PixelMap calibration	16
3.3.1	Open image.....	16
3.3.2	Map view	17
3.3.3	Image view.....	18
3.3.4	Add pixel defect	19
3.3.5	Add line defect.....	19
3.3.6	Save pixel map	20
3.4	Remove the Grid Pattern	20
3.5	System configuration	21
3.5.1	Configuration	21
3.5.2	General	21
3.5.3	MAP	22
3.5.4	LAN	23
3.5.5	Log	23
4	Product and License	24

DRTECH	DXMapper User Manual	Document No.	DRT-MAN-014
		Revision No.	Rev. 0.3
		Page	3 of 24

Chapter1

Introduction

	DXMapper User Manual	Document No.	DRT-MAN-014
		Revision No.	Rev. 0.3
		Page	4 of 24

1.1 Introduction

DXMapper is the map calibration software for the medical imaging system using the digital flat panel x-ray detectors of DRTECH corp..

Main Function

- Detector calibration

	DXMapper User Manual	Document No.	DRT-MAN-014
		Revision No.	Rev. 0.3
		Page	5 of 24

1.2 Software overview

DXMapper has two main functions as follow.

Detector calibration

GainMap¹ calibration : Using image processing technique, user can update the gain map.

PixelMap² calibration : User can manually calibrate a pixel defect and a line defect.

¹ Map data to calibrate the characteristics of a detector (file extension : GMP)

² Map data to calibrate a pixel defect and a line defect of a detector (file extension : MAP)

	DXMapper User Manual	Document No.	DRT-MAN-014
		Revision No.	Rev. 0.3
		Page	6 of 24

1.3 Copyright Notice

The contents of this manual are confidential and belong to DRTECH corp.

We offer this manual only permitted customers to promote and support our products. Thus any contents of this manual couldn't be opened to others who have no permission, without the consent of DRTECH Corp.

The contents of manual could be corrected or changed without notice.

Copyright © 2010 DRTECH Corporation. All rights reserved.

1.4 Contact Information

Our highly trained staffs are available to assist you with all of your technical queries.

We can recommend the best solution for your environment as soon as possible with our expertise and resources

If you have any questions or need more information, feel free to contact us.

DRTECH Corporation

[462-807] 333-1, Sangdaewon 1-Dong, Jungwon-Ku, Seongnam-Si, Gyunggi-do, Korea

Tel: 031-730-6800 / Fax: 031-730-6899

	DXMapper User Manual	Document No.	DRT-MAN-014
		Revision No.	Rev. 0.3
		Page	7 of 24

Chapter 2

Installation

	DXMapper User Manual	Document No.	DRT-MAN-014
		Revision No.	Rev. 0.3
		Page	8 of 24

2.1 System requirement

DXMapper require the following system spec. as minimum

OS	Windows 2000, XP, Windows 7(32bit)
HDD	80 GB
RAM	512 MB
Resolution	1280 * 1024
CPU	Pentium 4

Note 1) DXMapper might not work properly with the processor of other companies except for Intel processor.

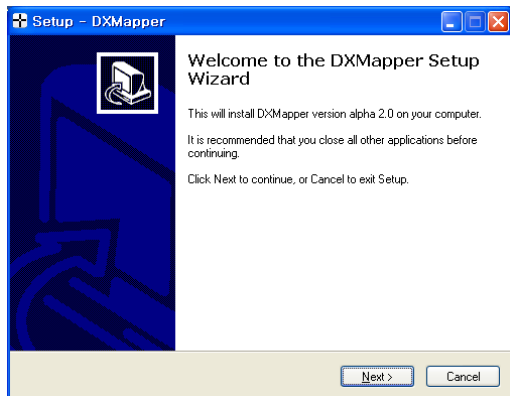
Note 2) DXMapper isn't verified under Window Vista.

	DXMapper User Manual	Document No.	DRT-MAN-014
		Revision No.	Rev. 0.3
		Page	9 of 24

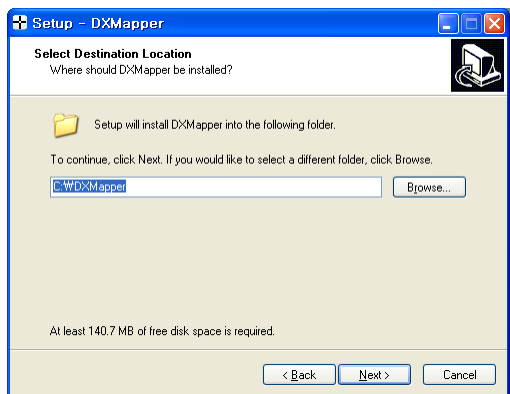
2.2 Install



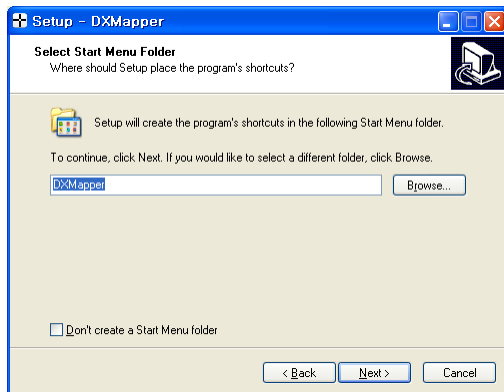
Click this install file, the Setup Wizard will pop up as below.



Click "Next" to start install.

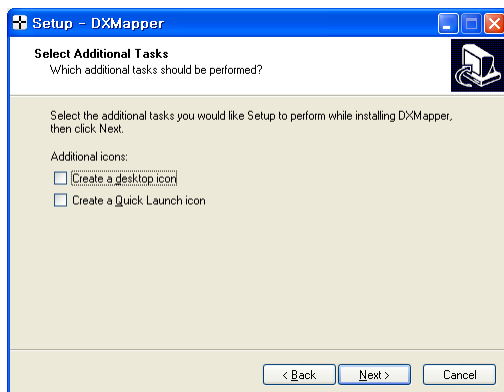


Browse and select the folder for DXMapper installation. The default folder is C:\WDXMapperW. Then click "Next".

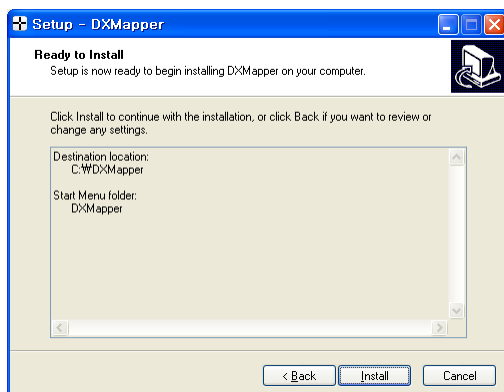


Name the Start Menu folder.

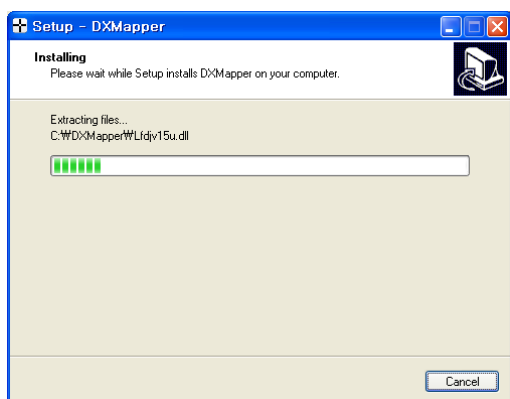
If you don't want to make the Start Menu folder, check the "Don't create a Start Menu folder" and then click "Next".



If you want the additional tasks "desktop icon" or "Quick Launch icon", select the check box and click "Next".

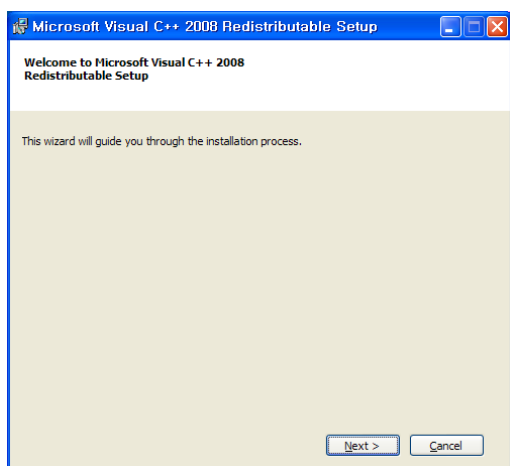


Now ready to begin installation. Click "Install".



Install program decompresses the files and starts copying them into the install folder.

If you want to quit, click “Cancel”.

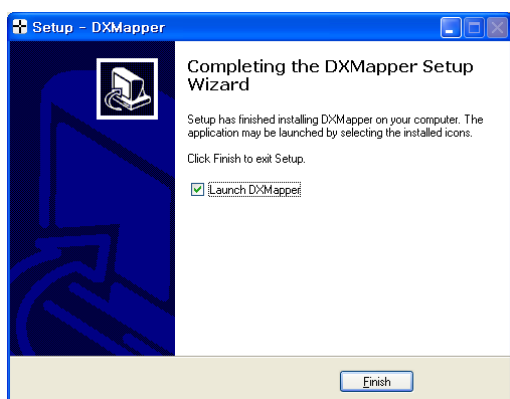


If the program installed the ‘Microsoft Visual C++ 2008 Redistributable’ will be start to setup.

(This program is for FLAATZ–560 Ethernet model.)

If you are using Windows XP service pack2 you need two more installation for Ethernet.

(The setup file is in ‘C:\DXMapper\Ethernet Setup’ folder)

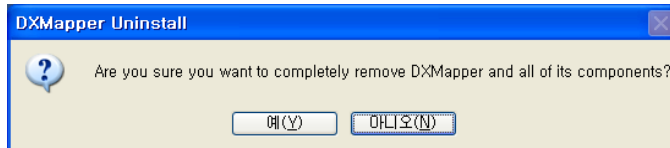


Click the Finish button. DXMapper might be started when “Launch DXMapper” is checked

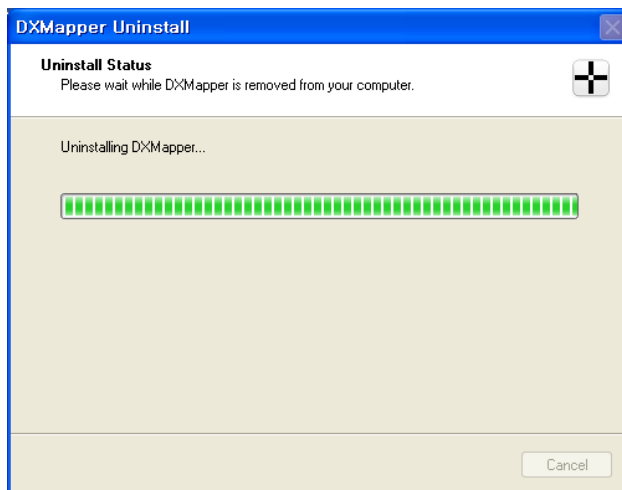
2.3 Uninstall

Click the **START** of Window menu.

Then select **Programs – DXMapper folder– Uninstall DXMapper**.



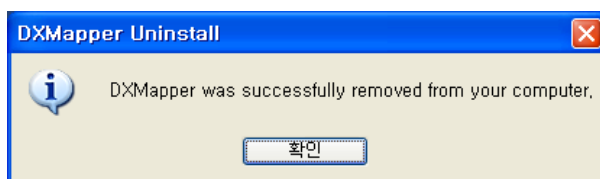
Click "Yes" to uninstall the program.



Uninstall program deletes the installed files automatically.

Some folders and files which were not produced by Install program wouldn't be deleted automatically.

User should delete the remained folders and files manually.



You'll see this message when DXMapper is successfully removed.

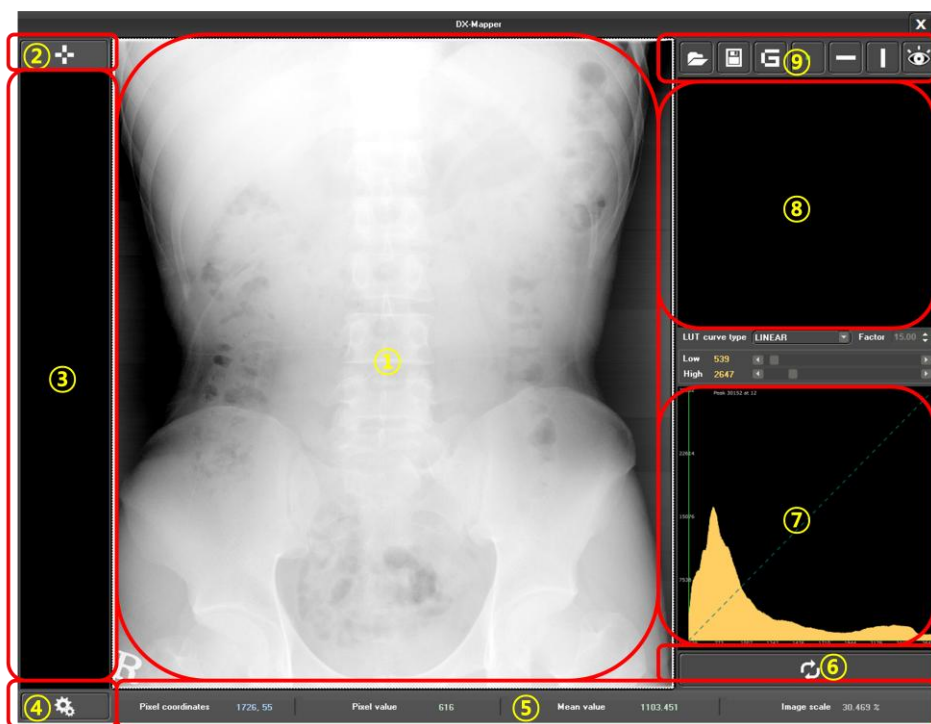
	DXMapper User Manual	Document No.	DRT-MAN-014
		Revision No.	Rev. 0.3
		Page	13 of 24

Chapter 3

Instruction

3.1 Function description

DXMapper consists of several function windows.



Functions

- ① Image view window
- ② Auto calibration
- ③ Thumbnail images
- ④ Configuration
- ⑤ Detail pixel status
- ⑥ Image restoration
- ⑦ Histogram viewer
- ⑧ Magnification window
- ⑨ Manual calibration

	DXMapper User Manual	Document No.	DRT-MAN-014
		Revision No.	Rev. 0.3
		Page	15 of 24

3.2 GainMap calibration

GainMap calibration will update it automatically using image processing technique of DRTECH.

7 images are required for the Automatic calibration process.

Note) Before you start the calibration, please check the GMP file name and Path and please open the GainMap file and PixelMap file.

The wrong file name or path can make serious problem.

If you do not open the GainMap file and PixelMap file you will get the white image.

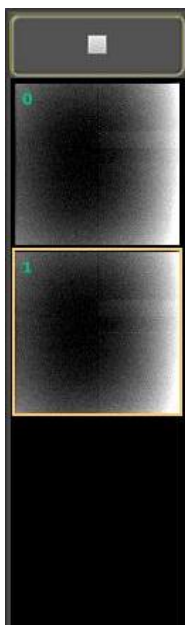
To start the automatic calibration, open the GMP file and MAP file.



Click the icon.



You can also cancel it if you click the icon.



When you take the pictures using the hand switch, you can get the images and also see the thumbnail images. You can also delete the acquired image before you take another image.

When you reach the 7 numbers of image which is already set in configuration window, calibration will start automatically using image processing.

After that The map file is saved in designated Path.

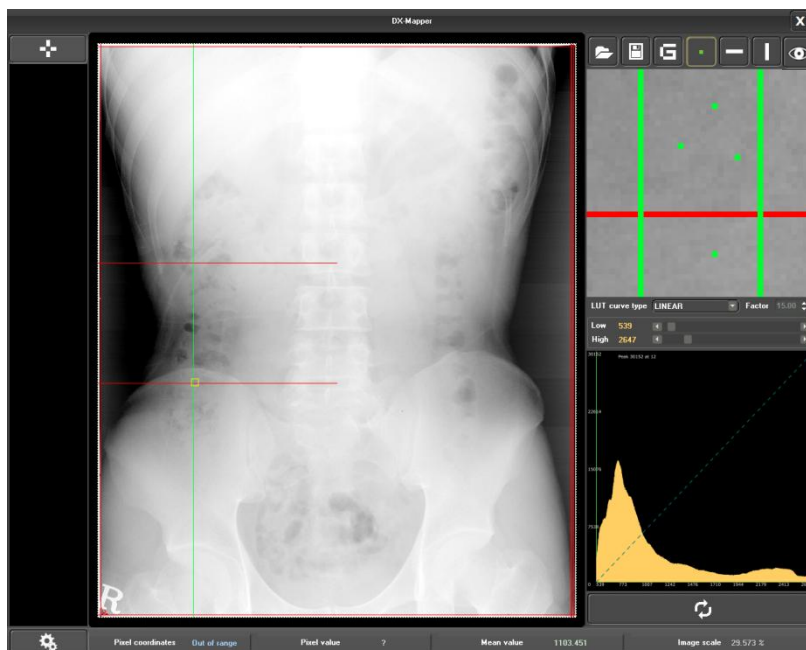
	DXMapper User Manual	Document No.	DRT-MAN-014
		Revision No.	Rev. 0.3
		Page	16 of 24

3.3 PixelMap calibration

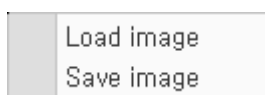
User can calibrate pixel map manually using RAW image when the pixel or line defect are not captured by automatic calibration, or new pixel or line defect is popped up while usage.

Note) Before you start the calibration, please check the MAP file name and Path.

The wrong file name and path can make serious problem.



3.3.1 Open image



You can get the images directly using hand switch or get the images from the existing image files for the manual calibration.

In case of hand switch, acquired image will show up in the working window. To load the image, click the mouse right button at the image area, then this menu shows up and you can open the raw image file.

	DXMapper User Manual	Document No.	DRT-MAN-014
		Revision No.	Rev. 0.3
		Page	17 of 24

3.3.2 Map view



This icon will toggle the pre-calibrated map data. The pre-fixed map will be presented using red color and new calibration data which user picked at the window will be presented using green color

3.3.3 Image view

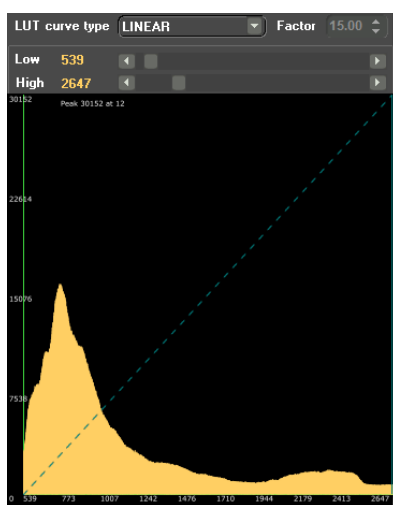


Image view window will show the image which is load by user or hand switch, and also show the map data.

Drag the mouse while hold the left mouse button will move the image in the image view window.

Drag the mouse while hold the right mouse button will change the range of the pixel view from the histogram of the image.

The range of the pixel view from the histogram is also presented at histogram window.



Also using mouse wheel, you can adjust the scale up and down of the image view.

	DXMapper User Manual	Document No.	DRT-MAN-014
		Revision No.	Rev. 0.3
		Page	19 of 24



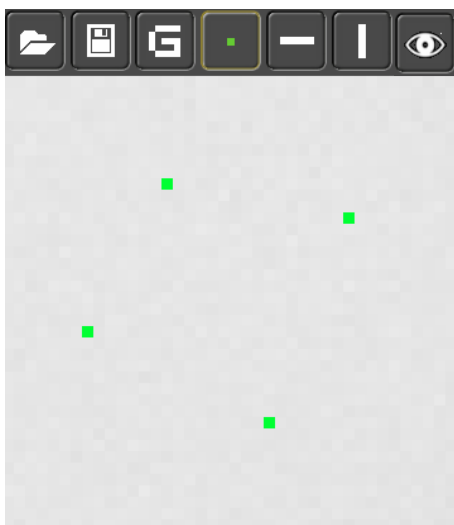
This icon will restore the original raw image on the image view.

3.3.4 Add pixel defect

You can see the scale-up image through the magnification window located on upper right side when you double-click the mouse left button on the image view window.



Click this Pixel defect icon and then click the left mouse button with Ctrl key button the area you want to see on the magnification window, it records the pixel defect as green in temporary storage area. When you click the left mouse button with Ctrl key button the same pixel again, the pixel defect record is canceled.



3.3.5 Add line defect



Click one of those Line defect icons and then click the left mouse button with Ctrl key button the area you want to see on the magnification window, it records the line defect as green in temporary storage area. When you click left mouse button and Ctrl key the same line again, the line defect record is canceled.

	DXMapper User Manual	Document No.	DRT-MAN-014
		Revision No.	Rev. 0.3
		Page	20 of 24

3.3.6 Save pixel map



Update the calibration data to the pixel map file. Once it saved, it will be showed as red color.

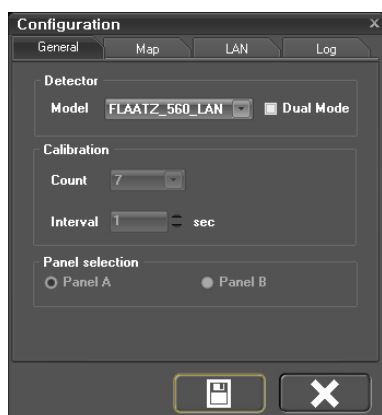
3.4 Remove the Grid Pattern

You can remove the grid pattern when you clicked this button.



This button activates only for FLAATZ-560 model.

3.5 System configuration



You can configure some value according to detector that you want to calibrate.

3.5.1 Configuration



Click this button, then configuration window will show up.

3.5.2 General



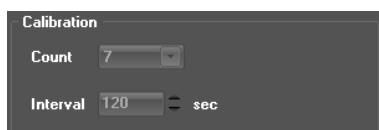
Select the detector model that you want to calibrate.

If you selected PCI or USB Interface, you can see General tab and Map tab,

If you selected Wi-Fi or Ethernet Interface, you can see all tabs.

If you use 2 panels, check the 'Dual Mode'.

(Dual mode supporting model : FDXD-1417(except matrox version), FLAATZ-500, FLAATZ-560, FLAATZ-550, FLAATZ-750, FLAATZ-750E)



Count : Automatic calibration use this count when you acquire the image directly using hand switch.

Interval : You can set the waiting interval time to get image for the automatic calibration.



You can select the Panel1 or Panel2.

It supports only FDXD-1417, FLAATZ-500, FLAATZ-550, FLAATZ-560, FLAATZ-750,

FLAATZ-750E models.

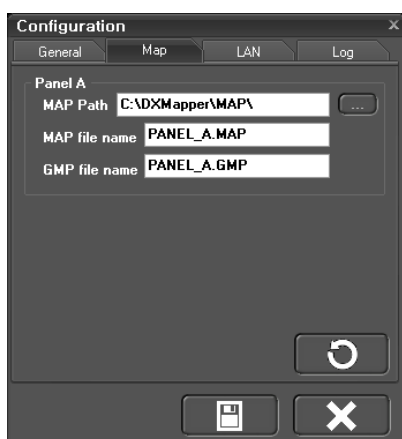


You can save/cancel the configuration that you adjust.

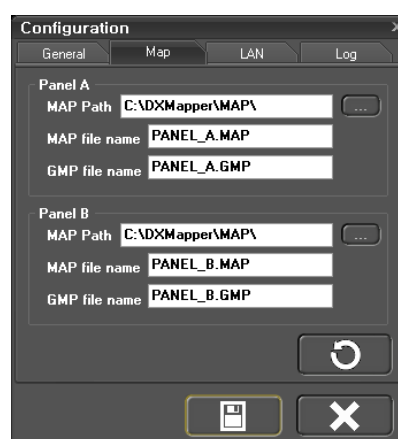
To use the configuration adjustment, you may exit the program and then restart.

3.5.3 MAP

You can see two interfaces as below.



<Single Mode>



<Dual Mode>

If you set the MAP file path and MAP file name created MAP file or GMP file will be saved designated Path and file name.

The old MAP or GMP file will be saved attached “_old” letters compared with original file name.

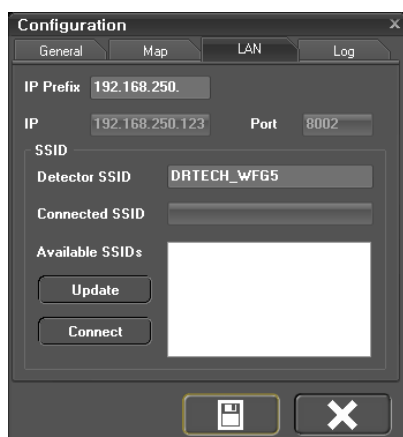
ex) PANEL_A.MAP → PANEL_A.MAP_old



This button will restore the old MAP or GMP file and the old MAP or GMP file will be disappear.

The panel to restore is decided by Panel selection(in the General tab).

3.5.4 LAN



IP Prefix : IP Prefix is fixed '192.168.250.'.

IP : The IP address for the computer that you want to connect.

DRTECH recommend between 192.168.250.10 and 192.168.250.199.

Port : The port number which will be used for the connection to the local computer.

The port number fixed 8002.

Detector SSID : Control box's Wi-Fi module SSID.

Control box has unique SSID in Wi-Fi interface.

The Detector SSID have to be same as control box's Wi-Fi module SSID.

If it is not identical it will not connect to the local computer.

SSID is only for the Wi-Fi interface.

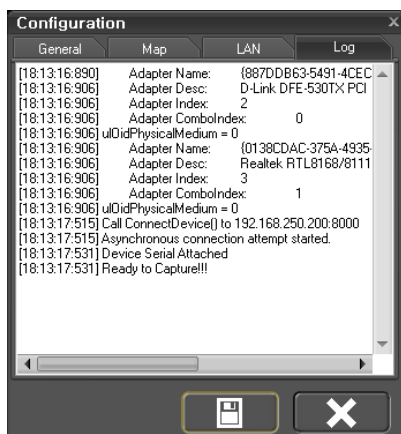
Connected SSID : SSID that already connected in local computer.

Available SSIDs : Available Wi-Fi SSID list

Update : Updates the available Wi-Fi SSID

Connect : make connection to the selected SSID

3.5.5 Log



You can check the communication log for the Wi-Fi or Ethernet.

DRTECH	DXMapper User Manual	Document No.	DRT-MAN-014
		Revision No.	Rev. 0.3
		Page	24 of 24

Chapter 4

Product and License